

C0. Introduction

C0.1

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

Tata Communications is a digital ecosystem enabler that powers today's fast-growing digital economy.

The Company enables the digital transformation of enterprises globally, including 300 of the Fortune 500 companies – unlocking opportunities for businesses by enabling borderless growth, boosting product innovation and customer experience, improving productivity and efficiency, building agility and managing risk. With its solutions orientated approach, proven managed service capabilities and cutting-edge infrastructure, the company drives the next level of intelligence powered by cloud, mobility, Internet of Things (IoT), collaboration, security and network services. The company carries around 30% of the world's internet routes and connects businesses to 80% of the world's cloud giants and 4 out of 5 mobile subscribers. The Company's capabilities are underpinned by its global network, the world's largest wholly owned subsea fibre backbone and a Tier-1 IP network with connectivity to 190+ countries and territories around the world. **Tata Communications Limited is listed on the Bombay Stock Exchange and the National Stock Exchange of India and is headquartered in India . Our major subsidiaries (in terms of revenue) are Tata Communications Transformation Services (TCTS), Tata Communications Payment Solutions Limited (TCP SL), and NetFoundry, along with other holding companies listed internationally as highlighted in our Integrated Annual Report FY23. Our presence in 50+ countries and end-to-end capabilities in servicing makes us an ideal partner for businesses everywhere.**

Tata Communications has been a part of the rich heritage of the internet in India. Over the last 25 years, enterprise-enabled services have been essential to the adoption of digital services in the country. From utility to transformation, connectivity is an essential fabric of sustenance for the economy. Tata Communications is committed to enabling Industry leaders in this New World of Communications™, with our unique promise of delivering secure connected digital experiences.

With a solutions-oriented approach, recognised managed service capabilities and cutting-edge infrastructure, we drive the next level of intelligence powered by our platforms, solutions and services, enabling our customers stay ahead of the competition by adopting digital transformation and deploying cutting-edge technology. We are at the heart of enabling the digital ecosystem - driving the next level of intelligence powered by:

- Cloud, Managed Hosting and Security
- IoT
- CPaaS
- MOVE
- Voice
- Core and Next Gen connectivity

HIGHLIGHTS*

- US\$ 2,220 mn Revenue (INR 17,838 crore)
- 0.6+ mn IoT Devices connected and managed
- 20,000+ live events supported/ delivered
- 11.5 Bn Minutes carried of voice minutes serviced
- 12,000+ Employees worldwide
- 37+ Diverse nationalities
- 50+ Entities across the globe
- 84 points Top percentile of NPS® / Score for customer satisfaction
- 'Great Place to Work' in Canada, Hong Kong, India, USA, Australia, United Kingdom and Singapore
- 18% of electricity used is from renewable sources (wind or solar)
- 11% decrease in water consumption from baseline year 2020 due to water conservation efforts and work from home situation
- 16:1 GHG emissions reduction for customers via Green and low carbon products and services

More details can be found on our website <https://www.tatacommunications.com/> or on <https://www.tatacommunications.com/about/sustainability/> .

C0.2

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

Reporting year

Start date

April 1 2022

End date

March 31 2023

Indicate if you are providing emissions data for past reporting years

No

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

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

C0.3

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

- Canada
- France
- Germany
- India
- Japan
- Portugal
- Singapore
- Spain
- United Kingdom of Great Britain and Northern Ireland
- United States of America

C0.4

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

USD

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

C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	INE151A01013

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	The Board is responsible for overseeing and monitoring the effectiveness of Tata Communications Sustainability strategy and its implementation. In keeping with the principle of single-point accountability, decisions are taken by our MD & CEO who exercises delegated authority from the Board. At Board level, CSR, Safety and Sustainability Committee has been set up to provide the members of the Board with a deeper insight into the Sustainability and Safety initiatives of Tata Communications. The Committee is chaired by a Non-Executive Director, and includes another Non-Executive Director, along with the MD & CEO as its permanent members. In FY 22-23, the Board has approved Tata Communications long-term Sustainability Goals designed to accelerate the company's impact towards a more sustainable future. The approved long-term Sustainability Goals (as detailed below) are pertaining to Climate Change, Circular Economy and Customer savings and are being formulated based on Tata Group's Sustainability Goals and the materiality assessment conducted by Tata Communications: • Goal 1: Carbon neutral by FY 2030 and Net Zero by FY 2035 • Goal 2: Enable our customers to reduce their greenhouse gas emissions from 6x to 20x by FY 2027. • Goal 3: Reduce our water consumption by 20% by FY 2030 – with the aim of eventually becoming water positive. • Goal 4: Sending zero waste to landfill by FY 2027. The Board has also validated the setting of an Internal Carbon Pricing for Tata Communications. For the other remaining material aspect w.r.t Sustainability, leadership advised us to continue formulating short term (1-3 year) horizon goals, the progress on which will be tracked and will be updated to the Board and GMC on a periodic basis. The Board has also recommended to budget and implement more nature based community projects to further ensure climate related commitments of carbon neutrality and net zero.
Chief Executive Officer (CEO)	MD & CEO chairs the Global Management Committee (GMC) every quarter comprising his direct reportees. This committee provides input and recommendations to support the MD & CEO in exercising their authority delegated by the Board to run the business of the group day to day. The committee reviews company strategy and key performance areas including sustainability on a monthly basis in the form of Corporate Scorecard which includes climate related indicators such as 7 % Y-o-Y Energy saving 55% Increase in RE Procurement - To achieve 'A' band in the CDP 2022. The progress of the Corporate Scorecard is reviewed on a monthly basis wherein the inputs and recommendations of the GMC are included in the overall company strategy. The committee approved RE procurement of 60 million kWh for RE enhancement in FY23. Further our MD & CEO also chairs 'Sustainable Development Committee' (SDC) involving cross functional representatives from EOHS, HR, CSR, Customer/ Product, Supply Chain, International Operations and more. The Sustainable Development Committee oversees the progress on business sustainability including climate change and resource conservation. The Committee meets on a quarterly basis wherein this year a focused drive was given to formulate a long term carbon mitigation strategy and plan. • The Committee reviewed the energy savings initiatives, PUE peer benchmarking along with interventions to improve the PUE this year as well. • The committee reviewed the status of the previously approved RE projects of 60 MU and the action plans to fast track the same. • The committee also reviewed and approved the Sustainability initiatives for Business Travel. Under Business travel climate mitigation strategy, we have established three initiatives - 1. Introduction of Electric Vehicles in place of Internal Combustion Engine (ICE) vehicles in cab fleet. 2. Mode optimisation for short haul air travel: Promotion of rail travel in place of air travel up to 2 hours of flight routes. 3. Promotion of Sustainable Aviation Fuel(SAF) by obtaining carbon mitigation certificates from airlines, wherever available. • The committee also reviewed the progress on Carbon offset projects. • The Committee reviewed the supply chain based emission trends and recommended to formulate engagement framework to further reduce the supplier based emissions. Based on the recommendation, we are looking forward to go for third party supplier assessment and improving engagement models.

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 annual budgets Reviewing and guiding strategy Overseeing the setting of corporate targets Monitoring progress towards corporate targets Reviewing and guiding the risk management process	<Not Applicable>	The Board is responsible for overseeing and monitoring the effectiveness of Tata Communications Sustainability strategy including climate change and its implementation. In keeping with the principle of single-point accountability, decisions are taken by our MD & CEO who exercises delegated authority from the Board. The Board's responsibilities related to climate-related aspects include: - Reviewing of proposed short- and long-term goals, initiatives and standards pertaining to sustainability including climate change. These are proposed by sub-committees such as the Sustainable Development Committee (SDC) and the Management Review Committee and once developed, are reviewed at the Board-level. - The Board also provides overall guidance along with reviewing and integrating sustainability priorities and commitments with the business strategies, risk and opportunities - Every quarter, sustainability deck and corporate ESG scorecards are presented to the Board to show the progress against the company's ongoing initiatives and commitments. The Board assesses the progress and provides guidance and recommended initiatives with clear commitments for effective sustainable development for Tata Communications. - In addition, the Board also periodically reviews and monitors business risks and opportunities with reference to sustainability. Furthermore, climate related risks included in the Enterprise Risk Management process are reviewed by the Board. - The Board has also recommended to budget and implement more nature based community projects to further ensure climate related commitments of carbon neutrality and net zero. This year, the Board's CSR, Safety and Sustainability Committee approved Tata Communications long-term Sustainability Goals designed to accelerate the company's impact towards a more sustainable future. The approved long-term Sustainability Goals (as detailed below) are pertaining to Climate Change, Circular Economy and Customer savings and are being formulated based on Tata Group's Sustainability Goals and the materiality assessment conducted by Tata Communications: • Goal 1: Carbon neutral by FY 2030 and Net Zero by FY 2035 • Goal 2: Enable our customers to reduce their greenhouse gas emissions from 6x to 20x by FY 2027 • Goal 3: Reduce our water consumption by 20% by FY 2030 – with the aim of eventually becoming water positive • Goal 4: Sending zero waste to landfill by FY 2027. The progress of these goals will be tracked and will be updated to the Board on a periodic basis.

C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	In general, the Board, based on the recommendation of the Nomination and Remuneration Committee, has identified the following competencies fundamental for the effective functioning of the Company: A. Business Management B. Domain Knowledge C. Engagement D. Financial and risk management acumen E. Knowledge of the legal and compliance framework F. Leadership and Stewardship G. Strategic Management Sustainability (including climate change) is included in the Strategic Management pillar of identified competencies criteria. Under this head, the board members are assessed for their competence (skillsets, proven academician, market and geographical experience) towards managing sustainability aspects such as climate change resilience, diversity , health and safety, learning and development and Based on the above criteria and the individual skills, the directors are mapped in expert and proficient category. Accordingly, the members are nominated for the Board led CSR, Safety and Sustainability Committee. More details are available on Pg 130 of Integrated Annual Report. https://gamma.tatacommunications.com/assets/wp-content/uploads/2023/06/integrated-annual-report-2022-23.pdf	<Not Applicable>	<Not Applicable>

C1.2

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

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities

Integrating climate-related issues into the strategy

Setting climate-related corporate targets

Monitoring progress against climate-related corporate targets

Assessing climate-related risks and opportunities

Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Reports to the board directly

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

Quarterly

Please explain

MD & CEO chairs the Global Management Committee (GMC) every quarter comprising of his direct reportees . This committee provides input and recommendations to support the MD & CEO in exercising their authority delegated by the Board to run the business of the group day to day. The committee reviews company strategy and key performance areas including sustainability and climate change on a monthly basis in the form of Corporate Scorecard which includes climate related indicators such as

a) 7 % Y-o-Y Energy saving

b) 55% Increase in RE Procurement

c)To achieve 'A' band in the CDP 2022.

The progress of the Corporate Scorecard is reviewed on a monthly basis wherein the inputs and recommendations of the GMC are included in the overall company strategy. The committee approved RE procurement of 60 million kWh for RE enhancement in FY23. The committee has also reviewed and approved the long term targets of carbon neutral by 2030 and net zero by 2035.

GMC and CHRO particularly enable and implement various sustainable practices both within and outside the workplace, such as minimizing their carbon footprint, enabling responsible decision making keeping in mind the company's sustainability priorities like responsible consumption, and promoting renewable energy sources.

Additionally, the GMC also helps in managing risks by allocating resources and investments towards initiatives, whether it's implementing energy efficient technologies, supporting green suppliers, or funding research and development of low carbon products and services. Lastly, they foster a culture of sustainability by educating and empowering employees to make environmentally conscious choices, implementing recycling programs, and encouraging sustainable practices across departments.

This helps the MD & CEO to review and take strategic decisions on climate related issues and direct the businesses towards positive climate action. On a quarterly basis, the progress and outcomes of such reviews are reported to the Board directly by the MD & CEO.

Position or committee

Sustainability committee

Climate-related responsibilities of this position

Setting climate-related corporate targets

Monitoring progress against climate-related corporate targets

Assessing climate-related risks and opportunities

Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

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

Quarterly

Please explain

The 'Sustainable Development Committee' (SDC) involves cross functional representatives from EOHS, HR, CSR, Customer/ Product, Supply Chain, International Operations and more. The committee is also attended by GMC members including CHRO (Chief Human Officer) and Chief Sustainability Officer. The SDC oversees the progress on business sustainability and aspects related to community development, health & safety, environment - climate change and resource conservation, employee engagement & development, supply chain management, customer requirement & compliances, and human rights. Committee meets on a quarterly basis. This year, there has been a focus on establishing long-term carbon mitigation strategies:

- The Committee reviewed the energy savings initiatives, PUE peer benchmarking along with interventions to improve the PUE this year as well. The committee reviewed the status of the previously approved RE projects of 60 MU and the action plans to fast track the same.
- The committee also reviewed and approved the Sustainability initiatives for Business Travel. Under Business travel climate mitigation strategy, we have established three initiatives -

For road-travel interventions:

1. Introduction of Electric Vehicles in place of Internal Combustion Engine (ICE) vehicles in cab fleet.

For air-travel interventions:

2. Mode optimisation for short haul air travel: Promotion of rail travel in place of air travel up to 2 hours of flight routes.
3. Promotion of Sustainable Aviation Fuel(SAF) by obtaining carbon mitigation certificates from airlines, wherever available.

- The committee also reviewed the progress on Carbon offset projects.
- The Committee reviewed the supply chain based emission trends and recommended to formulate engagement framework to further reduce the supplier based emissions. Based on the recommendation, we are looking forward to go for third party supplier assessment engagement models..

Position or committee

Chief Sustainability Officer (CSO)

Climate-related responsibilities of this position

Setting climate-related corporate targets

Monitoring progress against climate-related corporate targets

Assessing climate-related risks and opportunities

Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

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

Quarterly

Please explain

The Chief Sustainability Officer (CSO) provides quarterly updates to the Board and MD&CEO on the matters related to sustainable development and environment, occupational health & safety including climate change. CSO is a permanent member of the Sustainable Development Committee and also Sub Committee of SDC. As a functional responsibility, CSO reviews the performance of Sustainability Objectives & Targets set by the SDC. CSO and his team were given a task this year to formulate a long term carbon mitigation strategy and plan for Tata Communications keeping in mind international frameworks and guidelines. This plan was approved by SDC and later by GMC and Board-level committee in the reporting year. CSO and sustainability team is periodically engaging with the cross functional teams(action owners) for the identified climate change action opportunities.

This year, in addition to the above goals, the following initiatives were reviewed and approved by CSO:

1. CSO reviewed the energy savings initiatives, PUE peer benchmarking along with interventions to improve the PUE this year as well. The CSO reviewed the status of the previously approved RE projects of 60 MU and the action plans to fast track the same.
2. CSO also reviewed and approved the Sustainability initiatives for Business Travel. Under Business travel climate mitigation strategy, we have established three initiatives -

For road-travel interventions:

- a. Introduction of Electric Vehicles in place of Internal Combustion Engine (ICE) vehicles in cab fleet.

For air-travel interventions:

- b. Mode optimisation for short haul air travel: Promotion of rail travel in place of air travel up to 2 hours of flight routes.
- c. Promotion of Sustainable Aviation Fuel(SAF) by obtaining carbon mitigation certificates from airlines, wherever available.
3. The progress on Carbon offset projects was also reviewed.
4. The CSO reviewed the supply chain based emission trends and recommended to formulate engagement framework to further reduce the supplier based emissions. Based on the recommendation, we are looking forward to go for third party supplier assessment engagement models..
5. Climate related risks and mitigation plans were also reviewed and updated.
6. Climate and other environmental compliances are also reviewed by the CSO.

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	Tata Communications recognized the importance of employee incentives and how they can drive our sustainability agenda and our climate commitments. Our incentives and their relevant indicators are reflected across all levels, from our corporate executive team to energy managers and all employees. Further details on our incentives are provided in C1.3a.

C1.3a

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

Entitled to incentive

Corporate executive team

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Progress towards a climate-related target

Achievement of a climate-related target

Implementation of an emissions reduction initiative

Energy efficiency improvement

Increased share of renewable energy in total energy consumption

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

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

The corporate executive team at Tata Communications has a "Corporate Scorecard" which details out overseeing of goals and performance objectives for aspects including long-term sustainability. As part of the Imperative on "Sustainability at Core to Create long term Value for our Stakeholders", the team has to report quarterly progress to the board on various targets and goals. In FY23, the goals being evaluated included:

a) 7 % Y-o-Y Energy saving

b) 55% Increase in RE Procurement

c) Improvement in CDP score to A band in FY 2022

The team's performance against these goals is linked to their annual evaluation and subject to performance-based appraisals.

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

Tata Communications as an organization recognizes the importance of management-level overseeing and monitoring of climate-change related goals and commitments.

Our overall goals which have been approved by the Board in FY22-23

Goal 1: Carbon neutral by FY 2030 and Net Zero by FY 2035

• Goal 2: Enable our customers to reduce their greenhouse gas emissions from 6x to 20x by FY 2027

• Goal 3: Reduce our water consumption by 20% by FY 2030 – with the aim of eventually becoming water positive

• Goal 4: Sending zero waste to landfill by FY 2027.

The performance indicators of the corporate scorecard (as mentioned above) and its incentives ensure that these goals are tracked and corresponding management plans are executed at all levels. In addition to the bonus %, the identified GMC members and their reporting functional teams have climate mitigation action as part of the key result areas which are tracked and ensure course correction in case of any gap in the management plans.

Entitled to incentive

Energy manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Other, please specify (Monetary rewards provided on the basis of completion of GHG reduction/energy efficiency idea)

Performance indicator(s)

Implementation of an emissions reduction initiative

Energy efficiency improvement

Increased share of renewable energy in total energy consumption

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

Energy managers and experts working under Power Management team are responsible for effectively executing and implementing the energy projects. The teams are applauded and given monetary applause on submission of innovative ideas. Based on the responses on ideas, FIM team identified a total of 130 opportunities to be implemented across India. Completed 118 out of 130 projects which resulted in 6.56 million kWh in energy savings(cumulative) and ₹ 6.38 crores energy cost saving. Accordingly, the respective managers have been applauded by the managers.

Quarterly R&R Program for motivation : On a quarterly basis, FIM team organizes Rewards and Recognition programme for the operating staff. The team awards the personnels for the ideas on energy conservation within facilities.

Monetary benefits and applause are either included as part of pay and package of employee or provided separately basis on completion of project / submission of idea which can lead to energy and GHG savings within and outside boundary of operation.

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

In FY 22-23, Tata Communications committed to long-term Sustainability Goals designed to accelerate the company's impact towards a more sustainable future. The approved long-term Sustainability Goals include:

• Goal 1: Carbon neutral by FY 2030 and Net Zero by FY 2035.

In addition, we have KPIs such as

a) Increase in energy savings by 7 % Y-o-Y

b) 55% Increase in RE Procurement

Incentives such as these allow energy managers and project teams to develop energy efficiency improvement ideas and implement projects that lead to GHG Emissions reductions. These initiatives are key in achieving our goals.

Entitled to incentive

All employees

Type of incentive

Monetary reward

Incentive(s)

Other, please specify (Monetary rewards provided on the basis of completion of GHG reduction/energy efficiency idea)

Performance indicator(s)

Implementation of an emissions reduction initiative

Energy efficiency improvement

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

There are various platforms available within the company wherein employees are provided an opportunity to submit their ideas to management team regarding energy and GHG reduction. Company has started an engagement platforms such as Shape The Future, Tata Innovista and Project Marketplace for employees across business units to collaborate and develop their skills and contribute towards climate related ideas. Monetary benefits and applause are either included as part of pay and package of employee or provided separately basis on completion of project / submission of idea which can lead to energy and GHG savings within and outside boundary of operation. To all the personnels, mandatory trainings on energy conservation and management is provided as a part of continuous capacity building initiatives. IN FY 23, awards on approximately INR 4.3 lakhs were released for innovative energy saving ideas.

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

In FY 22-23, Tata Communications committed to long-term Sustainability Goals designed to accelerate the company's impact towards a more sustainable future. The approved long-term Sustainability Goals include: Carbon neutral by FY 2030 and Net Zero by FY 2035.

In addition, we have KPIs such as

a) Increase in energy savings by 7 % Y-o-Y

b) 55% Increase in RE Procurement

Incentives such as these allow all employees to come up with ideas that can lead to GHG Emissions reductions, which is central to our climate-related goals and commitments.

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	Business risks and opportunities identified to have an immediate impact on the company's business i.e. within three years are categorised under short-term horizon. The short-term time horizon is also aligned with our timelines for assessing and managing business risks. Basis on the short term horizon, company has formulated short term goals on Climate change.
Medium-term	3	6	Potential business risks and opportunities that may impact company's business in the near future (3-6 years) are categorized into medium term. As climate change related risks and opportunities are also aligned with the business risk assessment, we follow the same time horizon.
Long-term	6	10	Long term business risks and opportunities are anticipatory ones, identified based on sector trends, market predictions, etc. Similarly, climate risks and opportunities identified to have an impact within 6 to 10 years duration are termed as long term. Basis on this long term horizon, the company has set the targets of becoming Carbon Neutral by 2030 and Net Zero by 2035.

C2.1b

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

Any climate-related risk that has the potential to impact our network reliability or performance, our ability to service customers, communities or shareholder value is considered a **Substantive financial or strategic impact**. Any disruption, regardless of scale or magnitude, to our network is considered a negative impact as it impeaches the seamless connectivity and service to our customers resulting loss of revenue, additional cost and market value. The company defines substantive impact based on two viewpoints, first being the potential of occurrence or reoccurrence and the second is degree of the impact. The onset of these risks could be caused due to physical risks associated with climate change or through transition risks which includes introduction on new policy, regulations and law.

At an enterprise level, we have defined a threshold for the substantive financial impact of the risks, if the impact on the total revenue is more than 2% (of the AOP Revenue) then it will be categorized as high risk at the inherent level, between 1 to 2% medium risk and between 0.25 to 1% is low risk.

Similarly, non-financial impacts are potential impact on the control environment and relationships (internal and external). This is assessed based on the impact on our ESG strategy and outcomes. For non-financial impacts, the threshold has been defined to be high if there is a significant environment incident (*higher impact / outside facility boundary*), regulatory and legal non compliances leading to potential financial penalties greater than INR 50 Lacs, reputational loss at national and international media & stakeholder , high probability of Customers loss (Existing and Future) and damage to stakeholders' relationships or Loss of employee's morale (High magnitude).

The risk is categorized as Medium if there is a medium category environment incident (*manageable and within facility boundary*), regulatory and legal non compliances leading to potential financial penalties is b/w 5 lakh to 50 Lakh ,reputational loss at local media and stakeholders, medium probability of Customers loss (Existing and Future) and damage to stakeholders' relationships or loss of employee's morale (Medium magnitude) .

Similarly, it's a low category risk if there is a low category environment incident(*manageable and within facility boundary*), regulatory and legal non compliances leading to potential financial penalties less than 5 lakh, Reputational loss at local media and stakeholders, low probability of Customers loss (Existing and Future) and damage to stakeholders' relationships or loss of employee's morale (Low magnitude) .

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

The process is as per the Enterprise Risk Management policy framework.

Step 1: Risk Identification, which involves identifying any possible climate related threat or vulnerability which may adversely affect company's Vision, Mission [or financial results]. Climate related risks are identified and categorised into strategic, operational, financial, sectoral (market/competition), legal and regulatory, technology (information, cybersecurity), sustainability / ESG risks (environmental, social and governance) and other risks relevant from an industry perspective. Both bottom up and top down approach is considered during this stage.

Step 2: Risk Assessment

Risk assessment refers to the process followed for understanding the nature and level of risk. It involves the determination of the quantitative or qualitative value of risk related to a situation and a recognized threat. Risk assessment is done on a 3-point scale (High, Medium & Low) for determining inherent and residual exposure for the following parameters: the likelihood of risk events, and the potential impact of the identified risk scenarios. The assessment of each risk on the above two criteria is done in two stages:

1. Inherent risk ratings - Consideration of the impact and the likelihood of the events without taking any mitigation actions; and
2. Residual risk ratings - Consideration of the impact and the likelihood of the events if an action for mitigation is taken

Risk Rating = Likelihood * Impact <3: low, >=3 but <6: medium, >=6: High

Step 3: Risk Mitigation

Risk mitigation is the treatment of the risks post-assessment and prioritization. This requires the mitigation owners to select one or more risk response strategies, managing and treating risks. A risk response may fall into any of the following four categories namely:

- Tolerate - tolerating risk is accepting it as-is and where no action is taken to mitigate or reduce its impact and/or likelihood. Mitigation Owners should understand the cost in terms of time and money and then decide whether accepting the consequences of the risks is acceptable, also questions such as measures that have been taken for accepting this similar kind of risk in past and if accepting this risk is well within risk appetite of the organisation / business needs to be asked while tolerating the risks.
 - Treat - Treating Risk is a method of controlling risk through actions that reduce the likelihood of the risk occurring or minimize its impact prior to its occurrence.
 - Transfer - For some risks, the best response may be to transfer them.
- This might be done by conventional insurance or by supporting a third party to take the risk in another way. . This option is particularly good for mitigating financial risks or risks to assets.
- Terminate-It is the approach which simply involves risk elimination. This can be done by altering an inherently risky process or practice to remove the risk.

Some risks will only be treatable, or containable to acceptable levels, by terminating the activity. This option can be particularly important in project management if it becomes clear that the projected cost / benefit relationship is in jeopardy. The risk response and the residual risk assessment is approved in accordance with the approved matrix.

In addition to the treatment plan, targets and goals to minimise the risks are established with short term, medium term and long term time horizons. These targets helps us to treat the risk with better accountability and ensure course correction is implemented in case the risk has increased.

Step 4: Risk Monitoring and reporting

Risk monitoring is conducted on a periodic basis, for the identified risks, to track the status of response plans and to consequently update changes to risk profiles. Risk owners will provide risk updates to the ERM team on a periodic basis. The ERM team will take inputs from GMC members on risks pertaining to their respective lines of business. The Chief Risk Officer will be responsible for reporting top risks to the Risk Management Committee (RMC) for review. The RMC reviews the risks in terms of response sufficiency, implementation status and effectiveness. Top risks are reported to the Board of Directors on periodic basis, with half-yearly reviews of medium and low-level risks at the meetings with the GMC and the Board.

Case study on Transitional risk

Situation: Change in Investors and customer preference & outlook as new technologies, product & services are getting introduced which are more energy-efficient and promotes reduction in Green House Gas. If the company's ESG performance is not managed in these areas, we may lose to competition and loss of revenue.

Task: In order to be able to prioritize this risk, its financial and strategic impact has to be assessed.

Action: To do so we follow the assessment process described in the ERM framework including the comparison against the outlined threshold.

Results: Inherent risk rating was observed to be High while residual risk rating was assessed to be medium. During the assessment, following existing and future mitigation actions were planned:

1. We carried out carbon value chain assessment to understand the environmental benefits provided by our low carbon products and solutions at our customer/client end. The study included selective/sampled low carbon products and services from our Network, IoT, MES, Cloud, Business Collaboration streams deployed in FY 2019-20 & FY 2020-21 and were mapped with Tata Communications own operational GHG Emissions (Scope 1 & 2) in FY 2020-21. For FY 23, the potential GHG emission reductions through Tata Communication's low carbon products and solutions was around 16 times the emissions produced by the operations of Tata Communications (Scope 1, 2 and 3 emissions) .
2. We identify Low carbon, green products & services as one of the important opportunities in which a company can generate better revenue and profits going forward with a change in customers' outlook towards green products & services. We currently offer and are further developing range of low carbon products and services from our Network, IOT, MES, Cloud, Business Collaboration streams to our customers, which helps them in conserving their energy and reducing their GHG emissions.
3. In view of the heightened client awareness on climate change and other related socio-environmental issues, company to continue disclose its climate change approach and performance in various external indices such as CDP, EcoVadis etc. and report scores during RFP or the bidding stage and via its annual Sustainable Development report and website.
4. The company has set the relevant goal i.e., GHG emission reduction of 20x at customer end by FY2027. The goal has been approved by the Board in FY 23.

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	Relevance and inclusion: Every country and territory in which we operate has its own unique laws and regulations, and we have to make sure we adhere to everyone, everywhere. The regulations related to building energy efficiency, energy monitoring, GHG reporting and Renewable Energy enhancement are already there for our India, UK and Europe geographies. Further in India, we are in compliant and follow compliance with all government agencies such as Telecom Regulatory Authority Of India (TRAI) and State Pollution Control Board (SPCB). In alignment with SEBI's Business Responsibility & Sustainability Reporting(BRSR) framework, we also disclose ESG and climate change performance through this reporting framework which is mandatory for the top 1,000 listed companies (by market capitalisation) from FY2022-23 for the essential indicators. In the UK, we are complying to SEC rules and disclosing GHG emissions performance in Form 10K on an annual basis. All these current regulations in various geographies are included in our overall company-wide risk assessment and ISO 14001 Environmental management system. These regulations are continuously reviewed and evaluated at every level and any potential risks are duly met with proper corrective action. Our team periodically gets update on these legal compliances through various hired external agencies. We are aligned with TRAI emission targets/ guidelines to reduce 30% carbon emission by 2019-20 and 40% by the year 2022-23 taking base year as 2011-12. Specific risk: Based on our assessment, non-compliances of such laws will lead to penalty, reputational damage and revoking of license to operate.
Emerging regulation	Relevant, always included	Relevance and inclusion: Tata Communications is required to ensure continuous compliance with environmental laws and regulations to minimize any harm to the environment. Additionally, with the introduction of new regulatory requirements we need to proactively implement the relevant practices within the company. Specific Risk: The likelihood of new and changing regulatory compliance scenario with reference to Climate Change – carbon taxes, adaptation and mitigation practices and public disclosure requirements may add uncertainty to our compliance policies and increase our costs of compliance. It would require us to invest in initiatives to address them. This will incur additional costs to drive those initiatives and maintain the required guidelines set by the respective governing bodies. The company also recognizes that violations to such regulations may also lead to reputational damage.
Technology	Relevant, always included	Relevance and inclusion: ICT technology is being seen as a major solution for responding to climate change and is being applied across buildings and transportation, logistics, and energy, such as smart city planning, smart building, smart home appliances, smart grids, smart work and intelligent transportation. ICT technology is not only directly related to the convenience of living but also to the operational cost of reducing energy use. Depending on market expectations and regulations, and the acceleration of technological innovation, securing and leading green ICT technologies is recognized as a major opportunity and risk factor for Tata Communications. Specific Risk: Change in investors' and customer's preference & outlook as new technologies, product & services are getting introduced which are more energy-efficient and promote reduction in Green House Gas has been identified as one of the risks. Any risk affecting our capability to introduce such products and services, may lead to loss of revenue and customers. Within our own operations, we also perceive collaboration for new innovation as the one of the driving factors. To enable this, we have received Board approval in FY23 towards purchase of SAF (Sustainable Aviation Fuel) with three of our partner airlines- LH, AF/KLM & UA. Subscription purchase of SAF will help Tata Communications showcasing its efforts and contribution promoting Sustainability and green fuel in Aviation sector. This will also contribute towards our continued efforts towards our Carbon Neutral and Net Zero Goal.
Legal	Relevant, always included	Relevance and inclusion: Every country and territory in which we operate has its own unique laws and regulations, and we have to make sure we adhere to everyone, everywhere. The legal risks associated with climate related litigation claims are minimal for us since there are no significant climate mandates/laws for ICT sector in the countries that we operate in. Furthermore, till now we have not encountered any climate litigation due to our operations. However, current environmental laws in various geographies are included in our overall company-wide risk assessment and ISO 14001 Environmental Management System. Such legal risks are also reviewed in Enterprise Risk Management process. These regulations are continuously reviewed and evaluated at every level and any potential risks are duly met with proper corrective action. Specific risk: Although we are not subjected to climate related litigations right now, owing to heightened climate awareness and call for action there could be a future lawsuit which we may need to defend leading to payments or settlements.
Market	Relevant, always included	Relevance and inclusion: Our industry is rapidly changing as new technologies are developed that offer consumers an array of choices for their communications needs and allow new entrants into the markets we serve along with low impact on environment. In order to grow and remain competitive, we will need to adapt to future changes in technology, enhance our existing offerings and introduce new offerings to address our customers' changing demands as well as address the impact on climate change due to these offerings. To address such risk, we carried out carbon value chain assessment to understand the environmental benefits provided by our low carbon products and solutions at our customer/client end. In FY 2023, it was confirmed that the potential GHG emission reductions through Tata Communication's low carbon products and solutions was around 16 times the emissions produced by the operations of Tata Communications in FY 2023. Identification and mapping of low carbon and green products exercise and calculation of Customer savings to continue every year. Specific risk: 1. Change in Investors and customer preference & outlook as new technologies, product & services are getting introduced which are more energy-efficient and promotes reduction in Green House Gas. If the company's ESG performance is not managed in these areas, we may lose to competition and loss of revenue. If our services fail to gain acceptance in the marketplace, or if costs associated with the implementation and introduction of these services materially increase, our ability to retain and attract customers could be adversely affected.
Reputation	Relevant, always included	Relevance and inclusion : We are B2B customer oriented company and our customer and investors motivates us to follow sustainability (ESG / climate change) indexes to review our performance. Being prepared to respond to all of these is a critical and important element for relationship building and brand management. Specific Risk: Risk arising due to any change in our services, agreements, commitment, legal litigation and penalties w.r.t environment and climate change could then see lost revenue and reputation damage.
Acute physical	Relevant, always included	Relevance: Acute physical risks like cyclone, floods, extreme weather conditions can impact our business operations as most of our facilities and infrastructures are based out of coastal line of countries or near the sea-shore. We operate our own network of globe-spanning terrestrial and subsea cables, operation and maintenance of these infrastructure will get affected due to any physical change arising out of climate change. The significant impact of these issues often arises not from a single incident but from the aggregation of many incidents. Specific risk: 1. Our business operations are subject to interruption by natural disasters such events could cause significant damage to our infrastructure upon which our business operations rely, resulting in degradation or disruption of service to our customers. While we maintain insurance coverage for some of these events, the potential liabilities associated with these events could exceed the insurance coverage we maintain. 2. These events could damage the infrastructure of the suppliers that provide us with the equipment and services that we need to operate our business and provide services to our customers. A natural disaster or other event causing significant physical damage could cause us to experience substantial losses resulting in significant recovery time and expenditures to resume operations. In addition, these occurrences could result in lost revenues from business interruption as well as damage to our reputation.
Chronic physical	Relevant, always included	Relevance: Chronic physical risks like sea level rise, change in precipitation and temperature change can impact our business operations as most of our facilities and infrastructures are based out of coastal line of countries or near the sea-shore. We operate our own network of globe-spanning terrestrial and subsea cables, operation and maintenance of these infrastructure will get effected due to any physical change arising out of climate change. Specific Risk: Risks arising due to facility modification and equipment upgradation to adapt to sealevel rise and temperature change can lead to increased direct and indirect costs.

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

Technology	Transitioning to lower emissions technology
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

We spent 9% of operating cost on energy cost in FY2022-23. This energy cost has increased year on year increase in energy unit rate of 4% in Indian operations. The same trend is expected to continue in the coming years as well. As our business growth for all the operations is expected to grow (Facility Infrastructure Management (FIM) by 6%, Metro Access Network (MAN), National Long Distance (NLD) by 2% and International operations by 3% year on year), the energy demand is also expected to increase linearly over the years, thus increasing our indirect operating costs. To accommodate the growing demand, new age low carbon technology transition such as energy efficient HVAC, lighting, smart building space, smart power control and management, IOT, etc., will be required to overall decrease the energy costs. If we resist the transition to lower carbon emissions technology which could optimize energy consumption in our operations, we will have to bear the increased energy costs in the coming years.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1128714

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In FY23, the average grid electricity unit rate for Tata Communications was reported 9.72 INR or 0.121 USD per kWh for Indian operations. For the long-term scenario, we have considered a 4% Y-o-Y increase from our base year of FY22 unit rate of grid energy (0.116 USD/kWh for Indian operations) leading to an average grid energy unit price to 0.158 USD per kWh in FY30. Additionally, it is estimated that the energy demand of Indian operations will be 134 million kWh by FY30 in business as usual (BAU) scenario. Assuming the department-wise distribution remains the same in FY30, the total energy consumption by FIM in FY 30 is 94,601,831 kWh. With the targeted savings of 8% year on year by FIM operations (by implementing energy efficiency and low carbon technology), it is expected that total energy savings in FY 30 would be 7,139,761 kWh with cost savings of 1,128,714 USD.

Therefore the potential impact figure= cost savings achieved in FY30 with 8% target=1,128,714 USD.

Cost of response to risk

3784073

Description of response and explanation of cost calculation

To mitigate the cost of energy demand in Indian operations, FIM operations set a target of 8% year on year energy savings of the total energy consumed by FIM operations in FY22. To achieve the same various energy efficiency and low carbon technology projects have been implemented in FY21-22 and FY22-23 to reduce Tata Communication's energy consumption.

Based on FY 22 savings, total investment by FIM operations was 1,207,124 USD (including the projects identified in FY21 but implemented in FY22) with energy savings of 2,280,579 kWh leading to average cost of savings project to be 0.53 USD per kWh of savings.

Assuming the average cost of savings projects remains the same over the years, i.e. 0.53 USD per kWh of energy saved, the cost of response to risk = average cost of savings projects in USD per kWh savings * total savings achieved in kWh= 3,784,073 USD.

Comment

In FY23, the investment made by FIM operations in energy efficiency initiatives was USD 1,758,945, leading to savings of 6,652,938 kWh (the average cost of savings per kWh in FY23 = 0.26 USD per kWh savings). As we continue to introduce energy efficiency initiatives to achieve our year-on-year energy savings goal, in the coming years, we project a decreasing trend in the USD per kWh savings values for Tata Communications, leading to higher returns on our energy efficiency and emission reductions initiatives. In line with this, other operations within Tata Communications are also exploring various avenues to decarbonize the operations by implementing low carbon technologies and modernization of buildings.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Technology	Transitioning to lower emissions technology
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Based on our base year FY22, we see that energy cost is increasing year on year at unit rate of 4% in Indian operations. The same trend is expected to continue in the coming years as well (from 0.116 USD/unit to 0.158 USD/unit in FY2030). As our business growth for all the operations is expected to grow (Facility Infrastructure Management(FIM) by 6%, Metro Access Network(MAN),National Long Distance(NLD) by 2% and International operations by 3% year on year), the energy demand is also expected to increase linearly over the years, thus increasing our indirect operating costs. To reduce the energy costs, the company needs to transition to low carbon sources of energy.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10137607

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In FY22, the average grid electricity unit rate for Tata Communications was 0.116 USD per kWh for Indian operations. For long term scenario, we have considered 4% Y-o-Y increase in unit rate of grid energy leading to average grid energy unit price to 0.158 USD per kWh in FY30. The renewable energy target of Indian operations for Tata Communications is 64 million kWh by FY30 based on the current identified projects leading to total RE capacity of 62% in Indian operations. The potential impact figure is calculated by assuming that increased costs will be incurred by purchasing the energy from the grid instead of cheaper renewable energy in FY30. Therefore the potential impact figure= total renewable energy in kWh in FY30 * average grid unit price in FY30= 64,000,000* 0.158= 10,137,607 USD.

Cost of response to risk

5538485

Description of response and explanation of cost calculation

Tata Communications has identified various 17 RE projects such as Roof top onsite solar installation and group captive projects (expected to be implemented by FY25) which would lead to total investment of 1,137,227 USD leading to RE capacity of 64 million kWh in India. Therefore the cost of response to risk = Total annual amount of renewable energy cost in FY30+the total investment required for the projects to achieve 64 million kWh= 1,137,227+4,401,258=5,538,485 USD.

Comment

In FY23, the renewable energy consumption increased from 23 million kWh to 30.6 million kWh (from 14% of renewable contribution to 18% contribution). This was achieved by an increase in renewables consumption in FY23 and the added RE procurement for 8.4 MU project in Dighi, Pune. Further RE opportunities are being explored both by Indian and international operations.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Cyclone, hurricane, typhoon
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Primary potential financial impact

Increased capital expenditures

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Tata Communications is one of the most reliable and promising service providers. Our network is far spread and due to our connectivity, customers can be reached at remote places also. Due to this the expectations of customer goes very high and especially in disastrous situations like Floods, Cyclones. Therefore, addressing the physical risks of climate change is paramount to us. Our facilities have incurred financial impact due to increase in extreme weather events over the years. The increased severity and frequency of extreme weather events has increased over the years which requires us to have a strong mitigation and business continuity plan in place along with insurance. While we maintain insurance coverage for some of these events, the potential liabilities associated with these events could exceed the insurance coverage we maintain. In our experience, the impact on our facilities is attributed to physical damages as well as power outage.

In FY23, we have seen major power outages caused by heavy rainfall in the states of UP, Karnataka and Maharashtra.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

106347

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Due to the events described in above cell, 7,034 USD of restoration and additional diesel cost was incurred by the company FY23. Due to the events of FY 22, 63,112 USD of restoration and additional diesel cost was incurred by the company while the insurance operating expenses amounted to 2,484,564 USD in FY22. Assuming that the observed increase in insurance cost of 11% year on year is proportionate to the increase in the damages cost, the total damages cost in FY25 has been estimated since the impact is going to be seen in the near future itself. Therefore, the financial impact figure in FY25(total damage cost)= 11% increase Y-o-Y on 63,112 USD= 106,347 USD

Cost of response to risk

3133809

Description of response and explanation of cost calculation

To mitigate and reduce the impacts of the physical risk, the company spends annually on insurance expenses which amounted to 2,484,564 USD in FY23. These insurance expenses, if assumed to increase at 11% y.o.y., will lead to 3,133,809 USD.

Comment

In FY23, the company claimed USD 1,682,403 USD in insurance costs. We anticipate that the probability of events likely to increase insurance requirements of the organization. The events are likely to increase over the years, impacting which will impact the facilities located in coastal areas. Therefore, to mitigate such risks thorough site assessments are done in addition to the measures to make the facilities resilient to such extreme weather events. We also aim to conduct physical risk assessments for the same in the coming years.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Changing temperature (air, freshwater, marine water)
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

For any ICT company, it is essential to keep the temperature and humidity around the equipment constant. With the increase in ambient temperatures, the facilities need to meet the cooling requirements which leads to high energy consumption. . Tata Communications strives to reduce this risk by preparing for the adverse effects of climate change by modernizing them with latest technology and equipment's. In the reporting year, FIM operations used 62% of the total grid energy for cooling requirements. As the energy demand projected for FIM operations is 6% year on year, this could lead to even higher energy spend with increased cooling requirements. Therefore, the risk to operating costs is going to continue if the cooling requirements are not optimized or reduced with better investments.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

733664

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

As stated in Risk 1, the energy cost has increased due to year on year increase in energy unit rate of 4% in Indian operations. The same trend is expected to continue in the coming years as well. As our business growth for all the operations is expected to grow (Facility Infrastructure Management(FIM) by 6%, Metro Access Network(MAN), National Long Distance(NLD) by 2% and International operations by 3% year on year), the energy demand is also expected to increase linearly over the years, thus increasing our indirect operating costs. To reduce the energy costs, the company needs to transition to low carbon sources of energy.

In FY22, the average grid electricity unit rate for Tata Communications was 0.116 USD per kWh for Indian operations. For long term scenario, we have considered 4% Y-o-Y increase in unit rate of grid energy leading to average grid energy unit price to 0.158 USD per kWh in FY30.

Additionally, it is estimated that the energy demand of Indian operations will be 134 million kWh by FY30 in business as usual scenario. With the targeted savings of 8% year on year by FIM operations (by implementing energy efficiency and low carbon technology), it is expected that total energy savings in FY 30 would be 7,139,761 kWh with cost savings of 1,128,714 USD. In the reporting year, the energy savings projects with respect to HVAC saved 1,474,601 kWh with cost savings of 171,014 USD which attributed to 65% of the total energy savings. Assuming 65% savings are attributed to the HVAC every year, the energy savings in FY30 is estimated to be 4,640,845 kWh with cost savings of 733,664 USD.

The potential impact figure is calculated by assuming that increased cost will be incurred if the HVAC savings target is not achieved. Therefore the potential impact figure = cost savings achieved for HVAC in FY30 with 8% target = 733,664 USD.

Cost of response to risk

2413239

Description of response and explanation of cost calculation

To mitigate the cost of energy demand in Indian operations, FIM operations has set a target of 8% year on year energy savings of the total energy consumed by FIM operations. To achieve the same various energy efficiency and low carbon technology projects will be implemented to reduce the energy consumption. The estimated savings for FY 30 is calculated to be 7,139,761 kWh against total energy consumption by FIM of 94,601,831 kWh in FY30.

Based on FY 22 savings, total investment by FIM operations was 1,207,124 USD (including the projects identified in FY21 but implemented in FY22) with energy savings of 2,280,579 kWh leading to average cost of savings project to be 0.53 USD per kWh of savings. Additionally, total investment in HVAC optimization was 772,855 USD leading to average cost of savings project to be 0.52 USD per kWh of energy saved resulting in 1,474,601 kWh of savings. Assuming 65% savings are attributed to the HVAC every year, the energy savings in FY30 is estimated to be 4,640,845 kWh with cost savings of 733,664 USD.

Assuming the average cost of savings projects in HVAC remains the same over the years, i.e. 0.52 USD per kWh of energy saved, the cost of response to risk = average cost of savings projects in USD per kWh savings * total savings achieved in kWh for HVAC projects = $4,640,845 \times 0.52 = 2,413,239$ USD

Comment

Currently, only FIM operations have set the long term energy savings target. In coming years, other operations are exploring various avenues to decarbonize the operations by implementing low carbon technologies and modernization of buildings.

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

We consume nearly 173 million KWH of energy, mainly comprising of indirect power supply (83%) from the national grid, while the rest comes from the conventional sources and renewable energy sourced from third parties. We understand that our main impact on carbon or other greenhouse gas emissions comes from using indirect energy, hence our primary focus area is to reduce these indirect emissions.

To reduce such emissions and operational cost, there is an on-going move to use renewable energy at key locations of Tata Communications. We feel that we have an opportunity to reduce our operating cost by sourcing more renewable power as it is cheaper as compared to convention source of grid electricity in certain states of India. Overall, renewable energy is 30% cheaper per unit price than the grid energy in Indian operations. We have also observed a steady decrease in renewable energy prices of 2% over the years.

As our business growth for all the operations is expected to grow (Facility Infrastructure Management(FIM) by 6%, Metro Access Network(MAN), National Long Distance(NLD) by 2% and International operations by 3% year on year), the energy demand is also expected to increase linearly over the years, thus increasing our indirect operating costs. To reduce the energy costs, the company needs to transition to low carbon sources of energy.

Time horizon

Long-term

Likelihood

Very likely

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)

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In FY22, the average grid electricity unit rate for Tata Communications was 0.116 USD per kWh for Indian operations. For long term scenario, we have considered 4% Y-o-Y increase in unit rate of grid energy leading to average grid energy unit price to 0.158 USD per kWh in FY30 while unit rate for RE is expected to be 0.069 USD per kWh based on 2% Y-o-Y decrease in unit rate of RE.

The renewable energy target of Indian operations is 64 million kWh by FY30 based on the current identified projects leading to total RE capacity of 62% in Indian operations. The potential impact figure is calculated by assuming that decreased costs will be incurred by purchasing cheaper renewable energy in FY30.

Therefore the potential impact figure= (total renewable energy in kWh in FY30 * average grid unit price in FY30)-(total renewable energy in kWh in FY30*average RE unit price in FY30)= (64,000,000* 0.158)-(64,000,000*.069)= 5,736,349 USD.

Cost to realize opportunity

5538485

Strategy to realize opportunity and explanation of cost calculation

Tata Communications has identified various 17 RE projects such as Roof top onsite solar installation and group captive projects (expected to be implemented by FY25) which would lead to total investment of 1,137,227 USD leading to RE capacity of 64 million kWh in India. Over and above these investments, we have considered 2% decrease in renewable energy unit price leading to 0.069 USD per kWh in FY30. Therefore, the amount of renewable energy cost in FY 30 is estimated to be 4,401,258 USD.

Therefore Cost to realize opportunity = Total annual amount of renewable energy cost in FY30+ the total investment required for the projects to achieve 64 million kWh= 4,401,258 +1,137,227=5,538,485 USD.

Comment

While only 17 RE projects have been identified, the Indian as well as International operations teams is exploring further avenues to maximize the overall RE capacity and decarbonize the operations at the earliest.

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 efficiency)

Primary potential financial impact

Reduced direct costs

Company-specific description

To deliver energy efficiency activities, Tata Communications has a dedicated budget for each year. Enterprise-wide efforts are put into saving energy in response to its cost on the constant rise every year, and the budget for energy use reduction is allocated. . As our business growth for all the operations is expected to grow (Facility Infrastructure Management(FIM) by 6%, Metro Access Network(MAN), National Long Distance(NLD) by 2% and International operations by 3% year on year) , the energy demand is also expected to increase linearly over the years, thus increasing our indirect operating costs. To accommodate the growing demand, new age low carbon technology transition such as energy efficient HVAC, lighting, smart building space, smart power control and management, IOT, etc., will be required to overall decrease the energy costs. If we resist the transition to lower carbon emissions technology which could optimize energy consumption in our operations, we will have to bear the increased energy costs in the coming years. FIM function is assigned energy and GHG mitigation targets annually to encourage active and voluntary participation in energy saving activities. Currently, 8% year-on-year energy savings target has been set by the FIM function.

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)

1128714

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In FY22, the average grid electricity unit rate for Tata Communications was 0.116 USD per kWh for Indian operations. For long term scenario, we have considered 4% Y-o-Y increase in unit rate of grid energy leading to average grid energy unit price to 0.158 USD per kWh in FY30.

Additionally, it is estimated that the energy demand of Indian operations will be 134 million kWh by FY30 in business as usual scenario while 94 million kWh is attributed to FIM operations. With the targeted savings of 8% year on year by FIM operations(by implementing energy efficiency and low carbon technology), it is expected that total energy savings in FY 30 would be 7,139,761 kWh with cost savings of 1,128,714 USD.

Therefore the potential impact figure= cost savings achieved in FY30 with 8% target= (8%* FY29 total energy consumed by FIM)* average grid unit price in FY30=(8%*

89,247,010)*0.158= 1,128,714 USD.

Cost to realize opportunity
3784073

Strategy to realize opportunity and explanation of cost calculation

To mitigate the cost of energy demand in Indian operations, FIM operations has set a target of 8% year on year energy savings of the total energy consumed by FIM operations. To achieve the same various energy efficiency and low carbon technology projects will be implemented to reduce the energy consumption. The estimated savings for FY 30 is calculated to be 7,139,761 kWh against total energy consumption by FIM of 94,601,831 kWh in FY30.

Based on FY 22 savings, total investment by FIM operations was 1,207,124 USD(including the projects identified in FY21 but implemented in FY22) with energy savings of 2,280,579 kWh leading to average cost of savings project to be 0.53 USD per kWh of savings.

Assuming the average cost of savings projects remains the same over the years, i.e. 0.53 USD per kWh of energy saved, the cost to realize opportunity = average cost of savings projects in USD per kwh savings * total savings achieved in kWh= 7,139,761 *0.53= 3,784,073 USD

Comment

Currently, only FIM operations have set the long term energy savings target. In coming years, other operations are exploring various avenues to decarbonize the operations by implementing low carbon technologies and modernization of buildings.

C3. Business Strategy

C3.1

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

Row 1

Climate transition plan

Yes, we have a climate transition plan which aligns with a 1.5°C world

Publicly available climate transition plan

Yes

Mechanism by which feedback is collected from shareholders on your climate transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

Annually we release company's Integrated Annual Report which contains our climate transition plan and strategy to achieve it, aligned with 1.5 degree world. The published report is shared with all the shareholders and the feedback and associated inquiries are sought before as well as during our Annual General Meeting(AGM). This year, the shareholders commended the company's long term targets and further sought details on climate action and strategy as below:

1. Has Tata Communications obtained any ESG Rating. If yes, from which rating agency?
2. Does Tata Communications have an ESG Rating from any international agency?
3. Has any independent audit been conducted on Tata Communications' ESG framework?
4. What investments Tata Communications is making in sustainability initiatives/ Company's commitment to Environment and sustainability?
5. How much of Tata Comm's energy requirements are met through Green Energy and what steps we are taking to increase use of green energy?
6. Measures for carbon footprint reduction taken by Tata Communications during the year?/ How will tata Comm achieve its target of Net Zero?
7. What is Tata Comm's roadmap for reduction of water consumption?
8. Please provide details of carbon emission savings and water recycled during the year?
9. How much carbon footprint already reduced in the last 2 years?
10. Have you gone for ESG rating and what is the score and whether we have listed on ESG platform to unwind more value?

These queries have been addressed directly to the shareholders. To watch the comments of the shareholders in the AGM, please visit the following link for AGM webcast: <https://www.tatacommunications.com/investors/>

From next financial year, we will seek feedback via voting on resolutions during the AGM.

Frequency of feedback collection

Annually

Attach any relevant documents which detail your climate transition plan (optional)

Our Integrated report can be accessed with the following link: <https://www.tatacommunications.com/apps/integrated-annual-report-2022-23/natural-capital.php>

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

<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

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

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative, but we plan to add quantitative in the next two years	<Not Applicable>	<Not Applicable>

C3.2a

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

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Bespoke transition scenario	Company-wide	1.5°C	In FY23 we have committed to SBTi targets and submitted them for validation. The absolute targets for Scopes 1, 2 and 3 have been developed using the Absolute Contraction Method using the WB2C and 1.5 degree scenarios. Additionally, the organization has committed to becoming Net Zero by FY2035. The boundary considered was complete operations wherein company has a management control over its facilities energy consumption and infrastructure. Assumptions included the anticipated growth of Tata Communications over the period of 10 years along with increase in energy demand based on business growth of Indian and International Operations. Forecasting method was used to project demand whereas company's existing and futuristic renewable energy and energy saving projects were accounted. Energy growth for four operations was considered as follows: FIM=6%,MAN=2%, NLD= 2% and International =3%. whereas energy savings has been considered 8%/year on year for FIM operations. For the rest of the operations, the energy savings have been considered as 0%. In addition to this renewable energy capacity is to be increased from existing 30.6 MU to 83 MU by FY30 globally.

C3.2b

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

Row 1

Focal questions

Being an ICT company, we are heavily dependent on energy demand for our day-to-day operations. In lieu of the growing energy demand and our voluntary commitment to accelerate our climate performance, the analysis was based around following key questions:

- 1. What are the stringent decarbonization measures that the company needs to take in the long term to align itself to 1.5 degrees Celsius world?
- 2. How much impact can the current solutions make to mitigate the emission performance in the long run?
- 3. How much impact can the company make by engagement with various stakeholders with respect to climate related issues?
- 4. What are the measures beyond decarbonization that the company can undertake to be-come carbon neutral and net zero?

To accommodate such questions, we decided to follow the Absolute Contraction Method under the SBTi tool and develop our near-term targets in line with the 1.5 degree scenario.

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

Below are the results of the analysis:

- 1. Based on the analysis, we could formulate our near term absolute targets wherein we are targeting 42% reduction of scope 1 and 2 emissions by FY 2030 (wrt base year of FY 2022) and 25% reduction of scope 3 emissions by FY 2030 (base year of FY 2022). The decarbonization measures identified to achieve these targets are mainly related to improving energy & emission intensities for our facilities and data centres, decarbonizing diesel based emissions, and increasing our Renewable Energy quotient. To decarbonize the rest of the emissions, the organization has announced on the commitment to become Net Zero by FY2035. The roadmap for becoming Net Zero has been developed.
- 2. In addition to this, our current solutions have resulted in 6.56 million kWh of savings from FIM operations and overall 7 million kwh of savings have been achieved by rigorous optimization and energy efficiency plans. Additionally, 30.6 million kWh of our energy is sourced from renewable energy sources leading to 18% of RE capacity globally.
- 3. We are working towards reducing overall supplier based emissions such as purchased goods and capital goods, which constitute 30 % of our total emissions(scope 1, 2 and 3). Engagement with our employees and partners to introduce low carbon interventions in business travel has also been identified one of the climate action in the overall strategy.
- 4. Beyond decarbonization, the company has identified community carbon offset projects to neutralize the residual emissions accomplishing twin objectives of climate action and creating a positive impact on the communities. These identified projects are expected to expanding scale till FY30 with the potential to offset around 95,000 tonnes of CO2 in FY30.

C3.3

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	We identify low carbon, green products & services as one of the important opportunity which company can encash going forward with change in customer's outlook towards green products & services. Management feels that going forward low carbon and green products services will have an added value to the company and we see potential rise in revenue out of these. We offer and are further developing range of low carbon products and services from our Network, IOT, MES, Cloud, Business Collaboration streams to our customers, which helps them in conserving their energy and reducing their GHG emissions. In FY23, as part of the long-term Sustainability Goals, we have also committed to enable our customers to reduce their greenhouse gas emissions from 6x to 20x by FY 2027. As sustainability-conscious company, previous year we carried out carbon value chain assessment to understand the environmental benefits provided by our low carbon products and solutions at our customer/client end. The study included selective/sampled low carbon products and services from our Network, IoT, MES, Cloud, Business Collaboration streams deployed in FY 2019-20 and were mapped with Tata Communications own operational GHG Emissions (Scope 1 & 2) in FY2019- 20. The assessment was continued in the following year and shows that in FY 23 potential GHG emission reductions through Tata Communication's low carbon products and solutions was around 16 times the emissions produced by the operations of Tata Communications in FY 2023. Sustainable Development Committee headed by MD & CEO reviewed the findings of the study and have suggested to formulate internal frameworks for our marketing and products team to easily calculate these environmental benefits going forward. This specific objective was taken as a functional target and the performance of the same is disclosed in our Sustainable Development Report.
Supply chain and/or value chain	Yes	To support our transition to low carbon operations, we have identified supplier based emissions as a crucial part of the overall strategy. Keeping this in mind, we have rolled out a comprehensive Sustainability Supply Chain Framework for our operational teams by integrating the all-encompassing sustainability parameters of our supply chain and formulating a framework that comprises three tools of implementation: • Sustainable Supply Chain Policy: The policy is a vision document that aims to promote sustainability for our suppliers and business partners. • Supplier Code of Conduct: The Supplier Code of Conduct ("Code") outlines Tata Communications expectations for supplier conduct in relation to five primary principles: Ethics and Transparency, Labour and Human Rights, Environment, Health and Safety, Anti-Corruption and Anti-bribery, and Information Security. Our Supplier Code of Conduct and Sustainable Supply Chain Policy are available online. • ESG checklist for suppliers: The checklist is used to evaluate the Environmental, Social & Governance related practices of Tata Communications suppliers/business partners on an annual basis. Based on the ESG checklist, we also determine the sustainability score of our suppliers to comprehensively evaluate sustainability practices within the company's key and strategic supplier network. This framework has been integrated with the purchasing process of the company. Therefore, the suppliers have a mandate to abide by the climate related requirements as per the framework. In FY23, an ESG matrix has been added to the ESG checklist and key suppliers have been assessed against this matrix for their ESG performance including climate-related performance. Using this assessment and our committed targets as a basis, we aim to further engage with other suppliers on ESG performance in the coming years. The company is looking to use the engagement to transform its supply chain by working with suppliers with climate action plan and targets to align with its plan to become Net Zero by 2035.
Investment in R&D	Yes	We are ICT service company serving to our customers requirement on technological intervention. In this regard, we are working to automation and devising green and low carbon products so that our customers can cut down their GHG emissions. We drive R&D across our business units and at a corporate level, with focus on internal innovation (product or transformation led) as well as external innovation (technology and customer led). Strategic opportunities are identified based on external factors (market and/or customer led opportunities and disruptive technology led opportunities) and are also influenced by internal factors (product led or internal transformation led). Owing to this strategy, we are enabling a local municipality in the Middle East region by bringing next-gen Smart City solutions. As one of the large international customers for the Internet of Things ("IoT") business, this is a milestone achievement for us as the IoT business expands its global footprint. Our IoT ecosystem is serving as a one-stop shop to provide IoT hardware, platform, application and insights for the customer. This solution is upgrading a city's existing streetlights with smart streetlight solutions through automation of controls for energy and cost savings. This has resulted in additional energy savings of up to 20% and reduction of fault monitoring cost by 80%. It also ensures the right illumination on the streets for safe commuting. The overlay of the smart streetlighting solutions on LoRaWAN connectivity enables a city to significantly reduce its carbon footprint and help in transforming it into an intelligent and energy-efficient township.
Operations	Yes	As identified in section 2.3 a) Chronic and acute physical risks like sea level rise, change in precipitation can impact our business operations as most of our facilities and infrastructures are based out of coastal line of countries or near the sea-shore. We strive to reduce this risk by preparing for the adverse effects of climate change, such as strengthening and replacing facilities that are vulnerable to disasters and these extreme weather conditions by modernizing them with latest technology and equipment. The change in outside temperature also lead to change in humidity and continuous deterioration of ambient air quality there by damaging the network and infrastructure equipment. Further, we understand that our carbon footprint owes to the use of indirect energy, hence our primary focus is to reduce these indirect emissions. Company is focused to put investment in increasing its RE quotient which can off-sets its existing grid supply with Renewable Energy options. Apart from renewable energy procurement, we have improved our technology across the operations and undertaken several energy efficiency measures such as installation of fan speed controllers, blanking plates, coil oil containment in data centers, replacement of AHUs with VRV etc. To further support our emission reduction targets, we have developed internal carbon pricing mechanism which is expected to improve our decision making process in relation to operational climate related projects.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Direct costs Indirect costs Capital expenditures Access to capital	Climate related risks and opportunities have influenced our financial planning in multiple ways. It will impact our direct and indirect costs owing to increased investments in energy efficiency equipment and implementing RE enhancement projects while low carbon solutions have impacted our strategy on access to capital. As a result of these anticipatory changes, Tata Communications has also undertaken an internal carbon pricing exercise in FY23, and a shadow price has been validated by the Board in July 2023 for our operations from this reporting year onwards. Additionally, we are also influencing our capital expenditures planning based on the physical climate risks posed to the facilities. 1) Considering the adverse effects of the Green House Gas (GHG) emissions, GHG reduction measures have been announced by various countries. This could be a direct financial implication for implementation of the future regulations in future, which will require investment in infrastructure and initiatives pertaining to transition to low carbon technology to meet the guidelines. Case study a) Situation: While we are growing our business to meet the customer needs, the energy demand across the globe is going to increase as well. With the increasing energy demand the energy cost is also increasing which could lead to increased indirect costs. b) Task: To achieve this, we needed to create a roadmap to assess our energy needs and over-all potential emission reduction capacity. c) Action: a. We formulated the long term climate strategy and estimated our energy demand correlating to the business growth. Business growth was considered after consultation with operations team such as FIM, MAN, NLD and International operations. These growth assumptions were FIM =6%, MAN=2%, NLD=2% and International operations =3%. b. We also carried out an internal carbon setting exercise in FY23 that included a thorough analysis of all our implemented energy efficiency projects and their respective abatement costs and emissions reduction potential. d) Result: a. Target of energy savings of 8% year on year was set for FIM operations while additional 60 million kwh renewable energy projects were identified. It was estimated that these projects will require capex of 1.1 million USD which have been given principle approval by the MD&CEO. With these projects, 5,736,349 USD cost savings can be achieved by switching to renewable energy. It was estimated that we have the emission reduction potential of 53% of absolute Scope 1 and 2 emissions by FY30. With this reduction, cost savings of 1,128,714 USD with energy efficiency. b. As a result of our analysis, a shadow price was set and validated by the Board in FY23. We aim to use the internal carbon pricing to make more informed project decisions and further sharpen our approach towards climate change risks and opportunities. 2) Change in customer preference towards sustainable product and brand is not only prominent for retail and consumer companies but ICT companies also face broader challenge and heat in terms of protecting their brands by promoting green products and services, along withstanding and committing towards health, safety, ethical and environmental standards along the full length of their value chains. Impact: Access to Capital Reduced revenue and customer relationship, damage to company's brand. Strategy: We believe in developing and delivering green solutions for our customers to help them enhance their competitiveness and to allow their supply chains to be environmentally friendly. We offer and are further developing range of low carbon products and services from our Network, IOT, MES, Cloud, Business Collaboration streams to our customers, which helps them in conserving their energy and reducing their GHG emissions. 3) As identified in section 2.3 a) Chronic and acute physical risks like sea level rise, change in precipitation can impact our business operations as most of our facilities and infrastructures are based out of coastal line of countries or near the sea shore. For any ICT company, it is essential to keep the temperature and humidity around the equipment constant. With the change in precipitation pattern across Indian region there is a change in temperature and humidity which leads to high energy consumptions. We strive to reduce this risk by preparing for the adverse effects of climate change, such as strengthening and replacing facilities that are vulnerable to disasters and these extreme weather conditions by modernizing them with latest technology and equipment's. The change in outside temperature also lead to change in humidity and continuous deterioration of ambient air quality there by damaging the network and infrastructure equipment. We are also engaging with a leading banking corporation on sustainability-linked loans (SLLs) for Tata Communications. We are currently finalizing the loan engagement framework, the KPIs of which are directly related to our SBTi targets. Once finalized, we plan to use this case as driver of our overall sustainability agenda, including further assessment of climate-related risks and opportunities.

C3.5

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

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	No, but we plan to in the next two years	<Not Applicable>

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Is this a science-based target?

Yes, we consider this a science-based target, and the target is currently being reviewed by the Science Based Targets initiative

Target ambition

1.5°C aligned

Year target was set

2023

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Base year

2022

Base year Scope 1 emissions covered by target (metric tons CO2e)

4744

Base year Scope 2 emissions covered by target (metric tons CO2e)

88308

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)

<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

93052

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1:**Purchased goods and services (metric tons CO2e)**

<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)	<Not Applicable>
Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)	<Not Applicable>
Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes	100
Target year	2030
Targeted reduction from base year (%)	42
Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]	53970.16
Scope 1 emissions in reporting year covered by target (metric tons CO2e)	5341
Scope 2 emissions in reporting year covered by target (metric tons CO2e)	77735
Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)	<Not Applicable>
Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)	<Not Applicable>
Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)	<Not Applicable>
Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)	<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

83076

Does this target cover any land-related emissions?

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

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

25.5259220139072

Target status in reporting year

New

Please explain target coverage and identify any exclusions

In 2023, Tata Communications has submitted Scopes 1,2 and 3 targets for validation to the Science-Based Targets Initiative. The target for Scopes 1 and 2 is as follows; Tata Communications Limited commits to reduce absolute Scope 1 and 2 GHG emissions 42% by 2030 from a 2022 base year . This target covers all our Scope 1 and 2 emissions in our operational boundary without any exclusions.

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

In FY22-23, in order to commit and submit targets to SBTi, we have conducted various analyses to understand our primary sources of emissions. Our focus is to reduce indirect emissions. To do so, we are increasingly moving towards the use of renewable energy at our key locations. In our operations across the globe, almost 18% (~30.6 million kWh) of the electricity used in the reporting period was procured from either wind or solar energy. This year, the RE power procurement for Dighi Pune (8.4 MU) was completed. On the international front, we signed a contract to purchase renewable energy certificates from Portland General Electric Company for our Portland and Hillsboro facilities, totalling around 6 million units. Furthermore, we recently completed the first solar power operating expense (OPEX) model project in Seixal, Portugal, where solar energy power generation is equivalent to approximately 44% of the site capacity. We expect to finish the project RFS and its implementation in the first quarter of the fiscal year 2023-24.

This year, our Indian (Facility Infrastructure Management) operations identified a total of 130 opportunities for energy efficiency projects. These opportunities have resulted in cumulative energy savings of around 6.56 million kwh with cost savings of INR 6.38 crores (0.79 million USD). Additionally, Tata Communications has committed to an 7% year-on-year increase in energy efficiency.

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

<Not Applicable>

Target reference number

Abs 2

Is this a science-based target?

Yes, we consider this a science-based target, and the target is currently being reviewed by the Science Based Targets initiative

Target ambition

Well-below 2°C aligned

Year target was set

2023

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

Category 1: Purchased goods and services

Category 2: Capital goods

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

Category 5: Waste generated in operations

Category 6: Business travel

Category 7: Employee commuting

Category 8: Upstream leased assets

Category 9: Downstream transportation and distribution

Base year

2022

Base year Scope 1 emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 2 emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)

46462

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)

11345

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)

20356

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)

156

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)

2090

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)

432

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)

16517

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)

35

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)

97392

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

97392

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

<Not Applicable>

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1:**Purchased goods and services (metric tons CO2e)**

100

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)	100
Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)	100
Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)	100
Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)	100
Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)	100
Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)	100
Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)	100
Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)	<Not Applicable>
Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)	<Not Applicable>
Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)	100
Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes	100
Target year	2030
Targeted reduction from base year (%)	25
Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]	73044
Scope 1 emissions in reporting year covered by target (metric tons CO2e)	<Not Applicable>
Scope 2 emissions in reporting year covered by target (metric tons CO2e)	<Not Applicable>
Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)	74052
Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)	10757
Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)	

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)

926

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)

6886

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)

895

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)

16497

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

92

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)

128252

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

128252

Does this target cover any land-related emissions?

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

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

-126.745523246263

Target status in reporting year

New

Please explain target coverage and identify any exclusions

In line with our commitments to SBTi, we have undertaken the targets covering the following relevant categories:

- Category 1: Purchased goods and services
- Category 2: Capital goods
- Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
- Category 5: Waste generated in operations
- Category 6: Business travel
- Category 7: Employee commuting
- Category 8: Upstream leased assets
- Category 9: Downstream transportation and distribution

These relevant categories cover all our Scope 3 emissions across our supply/value chain without any exclusions.

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

Our target for Scope 3 emissions for Tata Communications is as follows:

Tata Communications Limited commits to reduce absolute Scope 3 GHG emissions 25% by 2030 from a 2022 base year.

As an organization in the ICT sector, we have analyzed our Scope 3 emissions sources and our impact on our value chain.

We have identified low carbon products and services as a key enabler for reducing our Scope 3 emissions. In support of this, we carried out a carbon value chain assessment to understand the environmental benefits provided by our low carbon products and solutions at our customer/client end. The study included selective/sampled low carbon products and services from our Network, IoT, MES, Cloud, Business Collaboration streams deployed in FY 2019-20 & FY 2020-21 and were mapped with Tata Communications own operational GHG Emissions (Scope 1 & 2) in FY2020-21. In FY 2023, the potential GHG emission reductions through Tata Communication's low carbon products and solutions was around 16 times the emissions produced by the operations of Tata Communications in FY 2023.

Additionally, we are engaging with our suppliers to raise awareness of more sustainable practices. In addition to our Sustainability Supply Chain Framework rolled out in FY22, we are also working towards developing a robust climate performance framework for suppliers in order to decrease the emissions due to our supply chain.

We have additionally enabled climate action in business travel by introduction of EVs and promotion of rail travel instead of short haul flights.

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

<Not Applicable>

C4.2

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

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

Net-zero target(s)

C4.2a

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

Target reference number

Low 1

Year target was set

2022

Target coverage

Company-wide

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2022

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

22935.63

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

13

Target year

2030

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

49

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

18

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

13.8888888888889

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, it is a part of the overall SBTi emission target i.e. 42% of scope 1 and 2 emissions by FY30.

Is this target part of an overarching initiative?

Science Based Targets initiative

Please explain target coverage and identify any exclusions

The target covers our company-wide operations. With the existing renewable energy capacity of ~30.6 million kWh, we have 17 projects lined up for FIM, MAN, NLD and International Operations. This covers our company - wide operations. With the implementation of these projects, the overall RE capacity is going to increase by 60 MU by FY 30 globally which is an increase of 49% from the existing RE capacity.

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

In the fiscal year 2023, we successfully procured 8.4 million units of solar power for our Dighi, Pune campus, marking another milestone in our journey to operate sustainably.

On the international front, we signed a contract to purchase renewable energy certificates from Portland General Electric Company for our Portland and Hillsboro facilities, totalling around 6 million units. Furthermore, we recently completed the first solar power operating expense (OPEX) model project in Seixal, Portugal, where solar energy power generation is equivalent to approximately 44% of the site capacity. We expect to finish the project RFS and its implementation in the first quarter of the fiscal year 2023-24. To further improve our performance, RE projects of 60 MU capacity have been planned globally and will be implemented by FY25. The total investment estimated in these projects is 1.1 million USD. These projects comprise of solar roof top installations and group captive sourcing models. The principle approval on these projects have also been received from the top management.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2c

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

Target reference number

NZ1

Target coverage

Company-wide

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

Abs1

Abs2

Target year for achieving net zero

2035

Is this a science-based target?

No, but we are reporting another target that is science-based

Please explain target coverage and identify any exclusions

In FY22-23, the Board of Tata Communications has approved a Net Zero by FY 2035 goal for the organization. The target will cover our operational boundary without any exclusions.

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

Yes

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

Tata Communications long-term Sustainability Goals have designed to accelerate the company's impact towards a more sustainable future. The approved long-term Sustainability Goals pertain to Climate Change, Circular Economy and Customer savings and are being formulated basis on Tata Group's Sustainability Goals and our company's materiality assessment –

Goal 1: Carbon neutral by FY 2030 and Net Zero by FY 2035

Aligned to the SBTi targets, we will reduce our Scope 1 and 2 emissions by 42% in FY2030 and Scope 3 emissions by 25% in FY2030.

The milestone for Tata Communications is to become Carbon Neutral by FY2030.

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

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	26	632
Implementation commenced*	10	691
Implemented*	141	2539
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 buildings	Heating, Ventilation and Air Conditioning (HVAC)
--------------------------------	--

Estimated annual CO2e savings (metric tonnes CO2e)

1854.83

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

336872

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

416359

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

106 initiatives were undertaken in this category in which low efficiency systems were replaced or optimisation of the system was achieved.

Initiative category & Initiative type

Energy efficiency in buildings	Building Energy Management Systems (BEMS)
--------------------------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

45.6

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

7631

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

1454

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

8 initiatives were undertaken in which Power factor improvement, electric load reduction was achieved by modification of old equipment and reduction of operating hours.

Initiative category & Initiative type

Energy efficiency in buildings	Lighting
--------------------------------	----------

Estimated annual CO2e savings (metric tonnes CO2e)

21.02

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

3358

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

1546

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

8 initiatives were undertaken in which LED lighting installation with motion sensor system.

Initiative category & Initiative type

Energy efficiency in buildings	Building Energy Management Systems (BEMS)
--------------------------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

139.99

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

20305

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

100093

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

11 initiatives undertaken in this category in which cold aisle containment was done in server room to enhance Power usage effectiveness of data centres.

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (Transformer& LT load optimization)
--------------------------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

426.03

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

81447

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

187723

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

3 initiatives were undertaken in this category wherein voltage of HT transformer were optimised or replaced.

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (UPS Optimization)
--------------------------------	--

Estimated annual CO2e savings (metric tonnes CO2e)

51.44

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

8555

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

4065

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

5 initiatives were undertaken in this category wherein UPS were replaced and load migration was executed.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	In India, we are aligned with TRAI emission targets/ guidelines to reduce 30% carbon emission by 2019-20 and 40% by the year 2022-23 taking base year as 2011-12. To ensure that we achieve these targets, we have devised a two-pronged approach that includes ensuring high energy efficiency and a significant increase in the use of renewable energy. In FY22-23, we sourced approximately ~30.6 million units of renewable energy and are working to increase our renewable energy footprint to 49% by FY2030.
Dedicated budget for energy efficiency	To deliver energy efficiency activities, Tata Communications has a dedicated budget for each year. Enterprise-wide efforts are put into saving energy in response to its cost on the constant rise every year, and the budget for energy use reduction is allocated. Business functional teams in India and Internationally are assigned energy and GHG mitigation targets annually to encourage active and voluntary participation in energy saving activities. In FY22-23, our Indian operations (FIM-India) identified a total of 130 opportunities involving projects related to heating, ventilation and air conditioning (HVAC), switched mode power supply (SMPS) and UPS efficiency enhancement/ optimisation and consolidation, smart lighting (conversion of conventional lighting into LED), usage of IoT (Internet of Things) and reduction in State Electricity Board (SEB) contract demand. As a result of the implementation of these identified opportunities, we have achieved cumulative savings of around 6.6 mn KWH with annual savings of US\$ 0.79 mn (INR 6.38 crore). Total capex investment was 7,11,240 USD in energy efficiency projects in FY 23.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Product or service

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

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

Type of product(s) or service(s)

Other	Other, please specify (Unified Communications)
-------	--

Description of product(s) or service(s)

Unified Communications's products and solutions provides global IP network which makes global voice and video communications and collaboration simpler, easier to manage, and more economical. Tata Communications's high-availability network minimises PSTN interconnects, reducing the number of related incidents, and automatically routing over IP during network problems. The solutions needs less hardware, making it easier and less expensive to design, configure, administer and maintain. Thus, solution with multimodal functionality enables better global collaboration with local and long distance calling from home, office, and on the move.

Tata Communications offers voice solutions like ITFS, Off Net, On Net PSTN services which help companies to connect better by reducing the complexity issues. Voice solution improves the overall performance and efficiency by ensuring uninterrupted voice solutions

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

Yes

Methodology used to calculate avoided emissions

Other, please specify (Consequential estimation approach, GHG emissions reductions due to the product)

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

Use stage

Functional unit used

In person meeting GHG avoidance

Reference product/service or baseline scenario used

In person meeting GHG emissions

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

Use stage

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

159157

Explain your calculation of avoided emissions, including any assumptions

We have used consequential approach to estimate the GHG emission reduction through our Voice solutions. The voice solution leads to GHG emission reductions in the form of avoidance of travel. Therefore the following formula was used:

1. Estimated total annual GHG emission reduction potential of Unified Communications's Voice solution = Number of audio calls which resulted in avoidance of travel X GHG emission reduction per call
2. Number of audio calls which resulted in avoidance of travel = Number of audio calls hosted through UCC voice solution X In person meeting avoidance factor

Input parameters:

- a. Annual average amount of audio calls hosted through Unified communication voice solution =3 Billion minutes
- b. Average duration of audio calls/ meetings= 60 minutes
- c. In person meeting avoidance factor =10%
- d. GHG emission reduction factor per audio call =0.028 MTCO₂e

Source of input parameters:

- a. In person meeting avoidance factor was considered from the GSMA: the enablement effect, 2018.
- b. Average amount of audio calls hosted by Tata communications per month in the FY2019-20 was 3 billion minutes.
- c. Average duration of audio calls/ meetings: Verdantrix, Carbon disclosure project study 2010: the telepresence revolution
- d. GHG emission reduction factor per audio call: British Telecom 3: 1 GHG emission reduction methodology

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

3

C5. Emissions methodology

C5.1

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

No

C5.1a

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

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

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

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

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

Scope 1

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

4744

Comment

Scope 1 (emissions from DG sets energy and fugitive emissions from ODS). In the scope 1 data, 3.6 tonnes of Co2 is coming from Sewage Treatment Plant and Organic Waste Converter is being included here.

Scope 2 (location-based)

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

88308

Comment

Scope 2 (emissions from purchased electricity) emissions data in accordance with GHG Protocol Corporate Accounting and Reporting Standard that accounts for our global emissions.

Scope 2 (market-based)

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

0

Comment

Currently, not accounted.

Scope 3 category 1: Purchased goods and services

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO₂e)

46462

Comment

Tata Communications is a service-oriented company dealing with technology and consulting. The operational expenses generally include salaries, outsourced consultancy services and management of facilities. All particulars that show up in the annual expenditures and consumables are considered as purchased goods and services. This categorization is done with the help of General Ledger (GL) accounts established by the company to differentiate between different types of assets. GL accounts excluding Cap.Inv-Computer, Cap.Inv-Plant & Mach, CWIP Exp-Building, CWIP Exp-Furniture & Fixture and CWIP Exp-Plant & Machinery are considered purchased goods and services. To calculate the emissions, Hybrid method – uses a combination of supplier-specific activity data (where available) and secondary data to fill the gaps is used.

1. Supplier specific emissions:

To calculate the supplier specific data, a supplier specific emission intensity (tCO₂-e/USD revenue) is used - based on publicly available data which are derived based on supplier's total emissions (Scope 1, 2, and 3) and revenue for a given year. This method is used for suppliers which are falling above the 60% of the total purchase value.

I. Supplier specific emission factor(tCO₂e/USD) =

Total Emissions / Revenue

Total Emissions = Total emissions reported by the supplier in tCO₂e.

Revenue = Total revenue of the supplier in USD.

II. Emissions from the supplier=

$\sum (EF) \times \sum (PV) \times S$

$\sum (EF) \times (S) =$ Supplier specific emission factors in tCO₂e per USD.

$\sum (PV) \times S =$ Sum of PO value allocated to the supplier in USD.

2. Weighted Average supplier emissions:

For the rest of the suppliers, weighted average emission factor is calculated from the intensities and applied for the rest of the spend.

I. Emissions by the GL category=

$\sum (EF) \times (Avg.) \times \sum (PV) \times Rem$

$\sum (EF) \times (Avg.)$

= Weighted Average emission factors based on the supplier specific intensities in tCO₂e per USD.

$\sum (PV) \times Rem =$ Sum of PO value for the remaining suppliers in USD.

The total GHG emissions from Purchased Goods and services is the summation of emissions from the above two calculations.

Scope 3 category 2: Capital goods

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO₂e)

11345

Comment

Capital goods are final products that have an extended life and are used by the company to manufacture a product; provide a service; or sell, store, and deliver merchandise. In financial accounting, capital goods are treated as fixed assets or as plant, property, and equipment (PP&E). Examples of capital goods include equipment, machinery, buildings, facilities, and vehicles. All the goods that show up as assets in the company's financial statements are considered as Capital goods and services. This categorization is done with the help of General Ledger(GL) accounts established by the company to differentiate between different types of assets. GL accounts - Cap.Inv-Computer, Cap.Inv-Plant & Mach, CWIP Exp-Building, CWIP Exp-Furniture & Fixture and CWIP Exp-Plant & Machinery are considered as Capital Goods and services. To calculate the emissions, Hybrid method – uses a combination of supplier-specific activity data (where available) and secondary data to fill the gaps is used.

1. Supplier specific emissions:

To calculate the supplier specific data, a supplier specific emission intensity (tCO₂-e/USD revenue) is used - based on publicly available data which are derived based on supplier's total emissions (Scope 1, 2, and 3) and revenue for a given year. This method is used for suppliers which are falling above the 60% of the total purchase value.

I. Supplier specific emission factor(tCO₂e/USD) =

Total Emissions / Revenue

Total Emissions = Total emissions reported by the supplier in tCO₂e.

Revenue = Total revenue of the supplier in USD.

II. Emissions from the supplier=

$\sum (EF) \times \sum (S) \times \sum (PV) \times S$

$\sum (EF) \times \sum (S) =$ Supplier specific emission factors in tCO₂e per USD.

$\sum (PV) \times S =$ Sum of PO value allocated to the supplier in USD.

2. Weighted Average supplier emissions:

For the rest of the suppliers, weighted average emission factor is calculated from the intensities and applied for the rest of the spend.

I. Emissions by the GL category=

$\sum (EF) \times (Avg.) \times \sum (PV) \times Rem$

$\sum (EF) \times (Avg.)$

= Weighted Average emission factors based on the supplier specific intensities in tCO₂e per USD.

$\sum (PV) \times Rem =$ Sum of PO value for the remaining suppliers in USD.

The total GHG emissions from Capital Goods and services is the summation of emissions from the above two calculations

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

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO₂e)

20356

Comment

Global diesel consumption and purchased electricity for electricity generation is considered.

For fuel-related activities, two activities have been identified to be relevant to Tata Communications namely Upstream emissions of purchased fuels and Transmission and distribution (T&D) losses. The purchased fuels mainly include High Speed Diesel(HSD) procured to operation Diesel Generator sets while for T&D losses purchased electricity from third-parties have been considered. The fuel consumption is taken from the user teams which are also used for Scope 1 emissions calculations.

To calculate the emissions from these activities, the following formula are used:

1. Upstream emissions from purchased fuels=

$EF \times \text{Consumption}$

EF = Emission factor for upstream scope 3 emissions from purchased fuel diesel.

Consumption = Total consumption HSD annually in litres.

Emission factor for upstream scope 3 emissions from purchased fuel diesel.= 0.62874 kgCO₂e /litre. Source: UK Government GHG Conversion Factors for Company Reporting, 2021

2. GHG emission due to T&D losses:

I. Actual T&D losses =

= Total grid energy consumed /(1-% T&D losses) - Total grid energy consumed

II. Emissions due to T&D losses

$EF \times \text{Actual T\&D losses}$

EF = Grid emission factor for the purchased electricity.

Actual T&D losses = Annual average T&D losses due to purchased electricity sourced in MWh.

Grid emission factors:

India =0.79 MTCO₂/MWh,CEA V17

US =0.37 MTCO₂/MWh, US EPA eGRID 2020

Canada =0.13 MTCO₂/MWh, 2020 Grid Electricity Emissions Factors v1.1 – June 2020, www.carbonfootprint.com

France =0.05 MTCO₂/MWh, EEA, Greenhouse gas emission intensity of electricity generation in Europe, 18 Nov 2021

Spain =0.16 MTCO₂/MWh, European Environment Agency(EEA), Greenhouse gas emission intensity of electricity generation in Europe, 18 Nov 2021

Japan =0.51 MTCO₂/MWh, 2020 Grid Electricity Emissions Factors v1.1 – June 2020, www.carbonfootprint.com

Portugal =0.20 MTCO₂/MWh, EEA, Greenhouse gas emission intensity of electricity generation in Europe, 18 Nov 2021

UK =0.21MTCO₂/MWh, UK Government conversion factors for company reporting of greenhouse gas emissions 2021

Singapore=0.41 MTCO₂/MWh, Energy Market Authority (EMA) 2020

Scope 3 category 4: Upstream transportation and distribution

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO₂e)

0

Comment

Not relevant. As the transport/logistics is mainly under vendors/ suppliers scope, Tata communications would have very minimal / limited operational control of transport/logistics activities of vendors/suppliers. Since the operational control is very limited, GHG emissions from transport/logistics activities of purchased goods/ resources and waste disposal etc., is not relevant to the company. Additionally, Tata Communications is not into manufacturing the emissions associated would be minimum and not material.

Scope 3 category 5: Waste generated in operations

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

156

Comment

The waste considered here is municipal solid waste and waste water being generated in our major Indian facilities. A total of 112 tonnes of waste was accounted as quantity of MSW sent to landfill. For solid waste disposal the methane emissions have been calculated by = Quantity of MSW sent to landfill * methane generation potential* (1-Fraction of methane recovered at the landfill (flared or energy recovery)) * (1-Oxidation factor)

For waste water both methane and nitrous oxide emissions have been considered. The emissions were calculated for waste water generated for the employees present in the office premises. the following formulae are being used: \

1. Total methane emissions = (Total organic content in the wastewater in the inventory year - Organic component removed as sludge in the inventory year) * CH4 emission factor

2. Total nitrous oxide emissions= ((Total number of employees in premises *Annual per capita protein consumption * Fraction of nitrogen in protein * Factor for nonconsumed protein added to the wastewater * Factor for industrial and commercial co-discharged protein into the sewer system) - Nitrogen removed with sludge) * Emission factor for N2O emissions from discharged to wastewater * The conversion factor of 44/28 is the considered for of kg N2O-N into kg N2O CO2 equivalent emissions have been calculated by considering GWP from IPCC AR5. Conversion factors have been considered from Chapter 6: Wastewater treatment and discharge, IPCC guidelines for National Greenhouse Gas Inventories, 2006 and 2006 IPCC guidelines Volume 5 Chapter 3. Wherever possible country specific variables have been considered as well.

Though we have a direct control on waste generation and management in our facilities, for emissions accounting only solid waste and waste water has been considered because we are developing programmes to reduce waste generation and increase waste recycling and treatment. This year the waste and waste water generation has been limited due to work from home policy however, in the future years we expect to reduce such emissions with our waste management programmes. Therefore, it is relevant to account such emissions in our Scope 3.

Scope 3 category 6: Business travel

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

2090

Comment

Tata Communications' employees travel for work or business trips through various modes and these modes are reserved either through Global Travel Desk(GTD) or by the employees themselves. Therefore, the data for business travel is collected from GTD as well as reimbursement portal called Concur. Based on the source of the data, methodologies have been selected to calculate the carbon footprint of such activities. The mode of travel considered is air, rail and road for distance based data while for spend based data categories considered are airfare, car hire/fuel, lodging and laundry, train and bus fare.

Scope 3 category 7: Employee commuting

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

432

Comment

We have considered company provided vehicles(diesel, CNG and EV vehicles) in Indian geography in this category. Based on data availability, currently, average data method is used. However, in future, if the data availability improves, Tata Communications may use fuel-based method or Distance-based method for estimating GHG emissions from employee commuting. The data for daily commuting distance for company vehicles is based on the primary data was taken as 51 kms obtained from the vendors . CO2, methane and nitrous oxide emissions are calculated with the below methodology: Emissions = Fuel consumption × EF.

For EV vehicles, annual energy consumption is accounted and then energy is used to calculate the emissions Annual energy consumption= (Annual distance travelled /Distance travelled on full charge) × Energy consumption per full battery charge. Emission factors for fuels were taken from Chapter 3 - Mobile combustion, IPCC Guidelines for National Greenhouse Gas Inventories and for Indian Grid electricity CO2 Baseline Database for the Indian Power Sector, User Guide, Version 15.0, December 2019.

Only Indian geography commuting practices have been taken since the quantum of employees based outside India is lesser than India. In the reporting year, we have not undertaken survey to get the data for private commuting. Going forward, the assumptions for the employee commute calculation will be sourced from a survey to understand private commuting practices. The survey will consider the various aspects such as distance between home and work, modes of transport, fuel efficiencies of personal vehicles used, etc. As an industry standard, GHG emission from public transport are not accounted as GHG emissions would happen irrespective of employee uses such mode of transport. Hence GHG emissions for employees choosing public transport are considered to be zero for GHG accounting

Scope 3 category 8: Upstream leased assets

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

16517

Comment

Several small POP locations have been established in international region to enable connectivity services which are leased buildings/rooms/offices. Therefore, these leased buildings have been considered as upstream leased assets in this category.

Data Collection: For the leased buildings in international regions, POP locations do not have separate utility or energy bills/invoices. These locations are mainly constituting of racks for servers and few capacity of employees. Therefore, for estimation of emissions from such leased assets, average data method is used. The average amount of energy consumed is derived from the average energy consumed by the racks from the owned sites where accurate data is available as the energy utilities are billed directly to the company. Total GHG emissions =(No.of racks) ×Average energy consumed per rack)×EF

Scope 3 category 9: Downstream transportation and distribution

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

35

Comment

The downstream transportation considered here is mostly the transportation of our network equipment from Indian warehouses to client sites. For these services, we hire a dedicated vehicle or courier services. The data for dedicated third party vehicles has been considered here. The distance travelled by such vehicles is taken into account and distance based method is used to calculate emissions using emission factor for freight vehicle (LDV < 3.5 T), i.e., 0.307 kgCO2/km by India specific road transport emission factors, Version 1.0, India GHG Program, 2015.

Under this category, downstream transportation is applicable only for warehouse transportation services where the network equipment are stored and transported to client sites. We have not considered the goods transported with courier services due to no operational control on such vehicles. In courier services, company goods are transported along with other entity's goods therefore, the vehicles are shared. The transportation of such goods is solely business requirement and we do not have programs to reduce emissions under such activity yet.

Scope 3 category 10: Processing of sold products

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

0

Comment

We do not sell any tangible products which requires processing. Hence this category is not relevant to us.

Scope 3 category 11: Use of sold products

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

0

Comment

Being a telecommunications company, we do not have any tangible products and provide services to our customers. The energy use from our services and products have already been calculated in Scope 1 and 2 emissions. Therefore not relevant to us.

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

Base year start

April 1 2021

Base year end

March 31 2022

Base year emissions (metric tons CO2e)

0

Comment

Being a telecommunications company, we do not have any tangible products and provide services to our customers. The energy use from our services and products have already been calculated in Scope 1 and 2 emissions. Therefore not relevant to us.

Scope 3 category 13: Downstream leased assets

Base year start
April 1 2021

Base year end
March 31 2022

Base year emissions (metric tons CO2e)
0

Comment
Not Relevant, as we do not have any downstream leased assets

Scope 3 category 14: Franchises

Base year start
April 1 2021

Base year end
March 31 2022

Base year emissions (metric tons CO2e)
0

Comment
Not Relevant, as we do not have any franchises

Scope 3 category 15: Investments

Base year start
April 1 2021

Base year end
March 31 2022

Base year emissions (metric tons CO2e)
0

Comment
Not Relevant, as we do not provide any investment or financial services.

Scope 3: Other (upstream)

Base year start
April 1 2021

Base year end
March 31 2022

Base year emissions (metric tons CO2e)
0

Comment
Not applicable

Scope 3: Other (downstream)

Base year start
April 1 2021

Base year end
March 31 2022

Base year emissions (metric tons CO2e)
0

Comment
Not applicable

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
India GHG Inventory Programme
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard
US EPA Emissions & Generation Resource Integrated Database (eGRID)

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)
5341

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
Scope 1- due to diesel consumption, refrigerants usage, waste water treatment in own facilities and waste. In the scope 1 data, 20.4 tonnes of Co2 is coming from Sewage Treatment Plant and Organic Waste Convertor is being included here.

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 have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment
Our scope-2 emission data includes facilities which are being managed and under the control of Tata Communications. It includes the emissions arising from the consumption of grid electricity at India and International regions.

C6.3

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

Reporting year

Scope 2, location-based
77735

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
Scope 2 (emissions from purchased electricity) emissions data in accordance with GHG Protocol Corporate Accounting and Reporting Standard that accounts for our global emissions.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?
No

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

74052

Emissions calculation methodology

Hybrid method

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

52

Please explain

Tata Communications is a service-oriented company dealing with technology and consulting. The operational expenses generally include salaries, outsourced consultancy services and management of facilities. All particulars that show up in the annual expenditures and consumables are considered as purchased goods and services. This categorization is done with the help of General Ledger (GL) accounts established by the company to differentiate between different types of expenses. GL accounts excluding Cap.Inv-Computer, Cap.Inv-Plant & Mach, CWIP Exp-Building, CWIP Exp-Furniture & Fixture and CWIP Exp-Plant & Machinery are considered purchased goods and services. To calculate the emissions, Hybrid method – uses a combination of supplier-specific activity data (where available) and secondary data to fill the gaps is used.

1. Supplier specific emissions: To calculate the supplier specific data, a supplier specific emission intensity (tCO₂e/USD revenue) is used - based on publicly available data which are derived based on supplier's total emissions (Scope 1, 2, and 3) and revenue for a given year. This method is used for suppliers which are falling above the 60% of the total purchase value.

I. Supplier specific emission factor(tCO₂e/USD) = Total Emissions / Revenue

Total Emissions = Total emissions reported by the supplier in tCO₂e.

Revenue = Total revenue of the supplier in USD.

II. Emissions from the supplier = $\text{EF}_{\text{S}} \times \text{PV}_{\text{S}}$

EF_{S} = Supplier specific emission factors in tCO₂e per USD.

PV_{S} = Sum of PO value allocated to the supplier in USD.

2. Weighted Average supplier emissions:

For the rest of the suppliers, weighted average emission factor is calculated from the intensities and applied for the rest of the spend.

I. Emissions by the GL category = $\text{EF}_{\text{Avg}} \times \text{PV}_{\text{Rem}}$

EF_{Avg} = Weighted Average emission factors based on the supplier specific intensities in tCO₂e per USD

PV_{Rem} = Sum of PO value for the remaining suppliers in USD.

The total GHG emissions from Purchased Goods and services is the summation of emissions from the above two calculations.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

10757

Emissions calculation methodology

Hybrid method

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

53

Please explain

Capital goods are final products that have an extended life and are used by the company to manufacture a product; provide a service; or sell, store, and deliver merchandise. In financial accounting, capital goods are treated as fixed assets or as plant, property, and equipment (PP&E). Examples of capital goods include equipment, machinery, buildings, facilities, and vehicles. All the goods that show up as assets in the company's financial statements are considered as Capital goods and services. This categorization is done with the help of General Ledger (GL) accounts established by the company to differentiate between different types of assets. GL accounts - Cap.Inv-Computer, Cap.Inv-Plant & Mach, CWIP Exp-Building, CWIP Exp-Furniture & Fixture and CWIP Exp-Plant & Machinery are considered as Capital Goods and services. To calculate the emissions, Hybrid method – uses a combination of supplier-specific activity data (where available) and secondary data to fill the gaps is used.

1. Supplier specific emissions: To calculate the supplier specific data, a supplier specific emission intensity (tCO₂e/USD revenue) is used - based on publicly available data which are derived based on supplier's total emissions (Scope 1, 2, and 3) and revenue for a given year. This method is used for suppliers which are falling above the 60% of the total purchase value.

I. Supplier specific emission factor(tCO₂e/USD) = Total Emissions / Revenue

Total Emissions = Total emissions reported by the supplier in tCO₂e.

Revenue = Total revenue of the supplier in USD.

II. Emissions from the supplier = $\text{EF}_{\text{S}} \times \text{PV}_{\text{S}}$

EF_{S} = Supplier specific emission factors in tCO₂e per USD.

PV_{S} = Sum of PO value allocated to the supplier in USD.

2. Weighted Average supplier emissions:

For the rest of the suppliers, weighted average emission factor is calculated from the intensity.

Emissions by the GL category = $\text{EF}_{\text{Avg}} \times \text{PV}_{\text{Rem}}$

EF_{Avg} = Weighted Average emission factors based on the supplier specific intensities in tCO₂e per USD

PV_{Rem} = Sum of PO value for the remaining suppliers in USD.

The total GHG emissions from Capital Goods and services is the summation of emissions from the above two calculations

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

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

18147

Emissions calculation methodology

Fuel-based method

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

0

Please explain

Global diesel consumption and purchased electricity for electricity generation is considered. For fuel-related activities, two activities have been identified to be relevant to Tata Communications namely Upstream emissions of purchased fuels and Transmission and distribution (T&D) losses. The purchased fuels mainly include High Speed Diesel (HSD) procured to operation Diesel Generator sets while for T&D losses purchased electricity from third-parties have been considered. The fuel consumption is taken from the user teams which are also used for Scope 1 emissions calculations.

To calculate the emissions from these activities, the following formula are used:

1. Upstream emissions from purchased fuels= EF x Consumption

EF = Emission factor for upstream scope 3 emissions from purchased fuel diesel.

Consumption = Total consumption

HSD annually in litres.

Emission factor for upstream scope 3 emissions from purchased fuel diesel.= 0.62409 kgCO₂e /litre.

Source: UK Government GHG Conversion Factors for Company Reporting, 2023

2. GHG emission due to T&D losses:

I. Actual T&D losses = Total grid energy consumed / (1-% T&D losses) - Total grid energy consumed

II. Emissions due to T&D losses: EF x Actual T&D losses

EF = Grid emission factor for the purchased electricity.

Actual T&D losses = Annual average T&D losses due to purchased electricity sourced in MWh.

Grid T&D losses:

India=21%, https://cea.nic.in/wp-content/uploads/executive/2022/01/Executive_Summary_Jan_2022-2.pdf

US=5%, U.S. EIA FAQ

Canada=9%, <https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?locations=CA>

France=6%

Spain= 9%

Portugal=8%

<https://www.ceer.eu/documents/104400/-/-/fd4178b4-ed00-6d06-5f4b-8b87d630b060>

Japan=4%, <https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS>

UK=8%, <https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?locations=FR>

Grid emission factors:

a. India =0.71 MTCO₂/MWh, CEA V18

b. US =0.37 MTCO₂/MWh, US EPA eGRID 2020

c. Canada =0.13 MTCO₂/MWh, Japan =0.51 MTCO₂/MWh, https://www.carbonfootprint.com/docs/2020_06_emissions_factors_sources_for_2020_electricity_v1_2.pdf

d. France =0.05 MTCO₂/MWh, Spain =0.16 MTCO₂/MWh, Portugal =0.20 MTCO₂/MWh,

https://www.carbonfootprint.com/docs/2022_01_emissions_factors_sources_for_2021_electricity_v10.pdf

e. UK =0.21 MTCO₂/MWh, UK Government conversion factors for company reporting of greenhouse gas emissions 2021

Upstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

As the transport/logistics is mainly under vendors/ suppliers scope, Tata communications would have very minimal / limited operational control of transport/logistics activities of vendors/suppliers. Since the operational control is very limited, GHG emissions from transport/logistics activities of purchased goods/ resources and waste disposal etc., is not relevant to the company. Additionally, Tata Communications is not into manufacturing the emissions associated would be minimum and not material.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

926

Emissions calculation methodology

Waste-type-specific method

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

0

Please explain

The waste considered here is municipal solid waste and waste water being generated in our major Indian facilities. A total of 48 tonnes of waste was accounted as quantity of MSW sent to landfill.

For solid waste disposal the methane emissions have been calculated by = Quantity of MSW sent to landfill * methane generation potential*(1-Fraction of methane recovered at the landfill (flared or energy recovery)) * (1-Oxidation factor)

For waste water both methane and nitrous oxide emissions have been considered.

The emissions were calculated for waste water generated for the employees present in the office premises. the following formulae are being used:

1. Total methane emissions = (Total organic content in the wastewater in the inventory year - Organic component removed as sludge in the inventory year) * CH₄ emission factor

2. Total nitrous oxide emissions= ((Total number of employees in premises *Annual per capita protein consumption * Fraction of nitrogen in protein * Factor for nonconsumed protein added to the wastewater * Factor for industrial and commercial co-discharged protein into the sewer system) - Nitrogen removed with sludge)* Emission factor for N₂O emissions from discharged to wastewater * The conversion factor of 44/28 is the considered for of kg N₂O-N into kg N₂O

CO₂ equivalent emissions have been calculated by considering GWP from IPCC AR5.

Conversion factors have been considered from Chapter 6: Wastewater treatment and discharge, IPCC guidelines for National Greenhouse Gas Inventories, 2006 and 2006 IPCC guidelines Volume 5 Chapter

3. Wherever possible country specific variables have been considered as well. Though we have a direct control on waste generation and management in our facilities, for emissions accounting only solid waste and waste water has

been considered because we are developing programmes to reduce waste generation and increase waste recycling and treatment. This year the waste and waste water generation has been limited due to work from home policy however, in the future years we expect to reduce such emissions with our waste management programmes.

Therefore, it is relevant to account such emissions in our Scope 3.

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

6886

Emissions calculation methodology

Spend-based method

Distance-based method

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

0

Please explain

Tata Communications' employees travel for work or business trips through various modes and these modes are reserved either through Global Travel Desk(GTD) or by the employees themselves. Therefore, the data for business travel is collected from GTD as well as reimbursement portal called Concur.

Based on the source of the data, methodologies have been selected to calculate the carbon footprint of such activities.

1. Air Data collection shall include distance travelled for the journey, origin and destination airport, type of seating. =Distance travelled by employee in passenger-km × EF(kgCO₂/km)

Emission factors used:

WRI, (2015), India Specific Air Transport Emission Factors for Passenger Travel and Material Transport India GHG program : Domestic=0.121 ,

UK Government GHG Conversion Factors for Company Reporting:

Short-haul, to/from UK= 0.15353 ,

Long-haul, to/from UK=0.19309

International, to/from non-UK=0.18362

Domestic, to/from UK=0.24587

2. Rail Data collection include distance travelled for the journey, origin and destination train station, type of seating. =Distance travelled by employee in passenger-km × EF(kgCO₂/km)

Emission factors used:

India GHG Program, Transport Emission Factors, 2014:

Suburban (Intercity) 0.00795

Non Sub-urban (Long distance) 0.00794

UK Government GHG Conversion Factors for Company Reporting:

International rail: 0.00446

National rail: 0.03549

3. Road Data collection includes distance travelled for the journey, origin and destination, type of car provided.

=Distance travelled by employee in passenger-km × EF

The emission factors were derived from India GHG Program, Transport Emission Factors, 2014

4. Spend based method

Since the data from the Concur portal does not provide for distance based activity data, company uses spend based method for such data.

Emission factors used:

US EPA, Supply Chain GHG Emission Factors for US Commodities and Industries v1.1:

a. Airfare

CO₂ =0.903 kg/USD; CH₄ =0.003 kg/USD; Other GHGs =0.002 kg/USD

b. Lodging and laundry

CO₂ =0.157 kg/USD; CH₄ =0.001 kg/USD; Other GHGs=0.003 kg/USD

c. Train/Bus Fare

CO₂ = 0.655 kg/USD ;CH₄ =0.002 kg/USD ;Other GHGs=0.004 kg/USD

UK Department for Environment, Food & Rural Affairs (DEFRA), Table 13 - Indirect emissions from the supply chain,

a. Car Hire/Fuel= 0.78 kg CO₂e per £

b. Taxi =0.78 kg CO₂e per £

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

895

Emissions calculation methodology

Average data method

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

0

Please explain

We have considered company provided vehicles(diesel, CNG and EV vehicles) in Indian geography in this category. Based on data availability, currently, average data method is used. However, in future, if the data availability improves, Tata Communications may use fuel-based method or Distance-based method for estimating GHG emissions from employee commuting. The data for daily commuting distance for company vehicles is based on the primary data was taken as 68 kms obtained from the vendors .

CO₂, methane and nitrous oxide emissions are calculated with the below methodology:

Emissions = Fuel consumption × EF.

For EV vehicles, annual energy consumption is accounted and then energy is used to calculate the emissions.

Annual energy consumption= (Annual distance travelled /Distance travelled on full charge) ×

Energy consumption per full battery charge.

Emission factors for fuels were taken from Chapter 3 - Mobile combustion, IPCC Guidelines for National Greenhouse Gas

Inventories and for Indian Grid electricity CO₂ Baseline Database for the Indian Power Sector, User Guide, Version 18.0, December 2019.

Only Indian geography commuting practices have been taken since the quantum of employees based outside India is lesser than India. In the reporting year, we have not undertaken survey to get the data for private commuting. Going forward, the assumptions for the employee commute calculation will be sourced from a survey to understand private commuting practices. The survey will consider the various aspects such as distance between home and work, modes of transport, fuel efficiencies of personal vehicles used, etc. As an industry standard, GHG emission from public transport are not accounted as GHG emissions would happen irrespective of employee uses such mode of transport.

Upstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

16497

Emissions calculation methodology

Average data method

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

0

Please explain

Several small POP locations have been established in international region to enable connectivity services which are leased buildings/rooms/offices. Therefore, these leased buildings have been considered as upstream leased assets in this category. Data Collection: For the leased buildings in international regions, POP locations do not have separate utility or energy bills/invoices. These locations are mainly constituting of racks for servers and few capacity of employees. Therefore, for estimation of emissions from such leased assets, average data method is used. The average amount of energy consumed is derived from the average energy consumed by the racks from the owned sites where accurate data is available as the energy utilities are billed directly to the company.

Total GHG emissions =(No.of racks) ×Average energy consumed per rack)×EF

Grid emission factors:

a.India =0.71 MTCO₂/MWh,CEA V18

b. US =0.37 MTCO₂/MWh, US EPA eGRID 2020

c. Canada =0.13 MTCO₂/MWh, Japan =0.51 MTCO₂/MWh, https://www.carbonfootprint.com/docs/2020_06_emissions_factors_sources_for_2020_electricity_v1_2.pdf

d. France =0.05 MTCO₂/MWh, Spain =0.16 MTCO₂/MWh, Portugal =0.20 MTCO₂/MWh,

https://www.carbonfootprint.com/docs/2022_01_emissions_factors_sources_for_2021_electricity_v10.pdf

e.UK =0.21MTCO₂/MWh, UK Government conversion factors for company reporting of greenhouse gas emissions 2021

f. Institute for Global Environmental Strategies (2023). List of Grid Emission Factors, version 11.1.

Angola=0.841MTCO₂/MWh

Bangladesh=0.640685 MTCO₂/MWh

Brazil= 0.291 MTCO₂/MWh

Ghana=0.479 MTCO₂/MWh

Hong Kong= 0.9419 MTCO₂/MWh

Indonesia= 0.778 MTCO₂/MWh

Malaysia=0.670 MTCO₂/MWh

Mozambique= 0.964 MTCO₂/MWh

Philippines=0.512 MTCO₂/MWh

South Africa=0.951 MTCO₂/MWh

Thailand=0.548 MTCO₂/MWh

Uganda= 0.487 MTCO₂/MWh

Vietnam=0.603 MTCO₂/MWh

Zimbabwe=0.9091 MTCO₂/MWh

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

92

Emissions calculation methodology

Distance-based method

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

0

Please explain

The downstream transportation considered here is mostly the transportation of our network equipments from Indian warehouses to client sites. For these services, we hire a dedicated vehicle or courier services. The data for dedicated third party vehicles has been considered here. The distance travelled by such vehicles is taken into account and distance based method is used to calculate emissions using emission factor for freight vehicle (LDV < 3.5 T), i.e., 0.307 kgCO₂/km and Emission factor for freight vehicle (MDV <12T), i.e.,0.5928 kgCO₂/km by India specific road transport emission factors, Version 1.0, India GHG Program, 2015

For calculations, activity data was calculated as total distance travelled in KM by dedicated outbound travel to be 144318

Km for LVD and 80768 km for MDV. Under this category, downstream transportation is applicable only for warehouse transportation services where the network equipments are stored and transported to client sites. We have not considered the goods transported with courier services due to no operational control on such vehicles. In courier services, company goods are transported alongwith other entity's goods therefore, the vehicles are shared. The transportation of such goods is solely business requirement and we do not have programmes to reduce emissions under such activity yet.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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 do not sell any tangible products which requires processing. Hence this category is not relevant to us.

Use of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

Being a telecommunications company, we do not have any tangible products and provide services to our customers. The energy use from our services and products have already been calculated in Scope 1 and 2 emissions. Therefore not relevant to us.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

Being a telecommunications company, we do not have any tangible products and provide services to our customers. The energy use from our services and products have already been calculated in Scope 1 and 2 emissions. Therefore not relevant to us.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

Not Relevant, as we do not have any downstream leased assets

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

Not Relevant, as we do not have any franchises

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

Not Relevant, as we do not provide any investment or financial services.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

Not applicable

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons 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

Not applicable

C6.7

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

No

C6.10

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

Intensity figure

0.000040723

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

83076

Metric denominator

unit total revenue

Metric denominator: Unit total

2040000000

Scope 2 figure used

Location-based

% change from previous year

10

Direction of change

Decreased

Reason(s) for change

Change in renewable energy consumption

Please explain

We have shown a improvement of 10% in Energy intensity as compared to last FY mainly due to decrease in our Scope 1 & 2 emissions due to higher percentage of RE growth (Onsite and PPA) . Apart from RE growth we also recorded increase in revenue which has helped our cause to reduce energy intensity. In the fiscal year 2023, we successfully procured 8.4 million units of solar power for our Dighi, Pune campus, in India. On the international front, we signed a contract to purchase renewable energy certificates from Portland General Electric Company for our Portland and Hillsboro facilities in the US, totalling around 6 million units. Furthermore, we recently completed the first solar power operating expense (OPEX) model project in Seixal, Portugal, where solar energy power generation is equivalent to approximately 44% of the site capacity. We expect to finish the project RFS and its implementation in the first quarter of the fiscal year 2023-24.

Our Spain facilities, Urduliz and Derio have received a 100% Renewable Energy Guarantee of Origin certificate from the power distribution company. This has led to increase in RE % from 13% in FY 22 to 18% in FY 23.

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	1633	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	6	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	24	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	3677	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/area/region	Scope 1 emissions (metric tons CO2e)
India	4988
Americas	197
Asia Pacific (or JAPA)	100
Europe, Middle East and Africa (EMEA)	55

C7.3

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

- By business division
- 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)
Non Data Centres (Facilities) / FIM India	4255
MAN (Metro Access Network)	213
NLD (National long Distance)	520
International Operations	353

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Diesel Consumption - DG sets	1643
Refrigerants	3677
Waste treatment within facilities	20

C7.5

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

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
India <i>We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure</i>	65233	0
Americas <i>We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure</i>	6968	0
Asia Pacific (or JAPA) <i>We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure</i>	3249	0
Europe, Middle East and Africa (EMEA) <i>We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure</i>	2285	0

C7.6

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

- By business division
- 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)
Non Data Centres (Facilities) / FIM India	43361	0
MAN (Metro Access Network)	11666	0
NLD (National long Distance)	10206	0
International Operations	12502	0

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)
Electricity from grid	77735	0

C7.7

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

No

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 in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	3642	Decreased	4	For our Indian operations and international operations there was an increase in renewable energy consumption in FY23 as compared to FY22. In US, 54,12,655 kWh of renewable energy was sourced and India additional 22,85,455 kWh of renewable energy was sourced in FY 23. The total increase in renewable energy consumption led to a decrease of 3642 tonnes of CO2 eq. The resulting emissions value is 4% of previous year's emissions, which were 93,052 tCO2. We arrived at this emissions value through $3642/93,052 * 100 = 4\%$
Other emissions reduction activities	4733	Decreased	5	In FY23, our Indian operations (FIM-India) identified a total of 130 opportunities involving projects related to heating, ventilation and air conditioning (HVAC), switched mode power supply (SMPS) and UPS efficiency enhancement/optimisation and consolidation, smart lighting (conversion of conventional lighting into LED), usage of IoT (Internet of Things) and reduction in State Electricity Board (SEB) contract demand. Out of these identified opportunities, 118 projects have been completed, and we have achieved cumulative savings of around 6.56 million KWh while MAN and NLD saved 103, 200 kWh. These initiatives led to 4,733 tonnes of emissions while the emissions for previous year were 93,052 tonnes leading to emissions change of 5%. We arrived at 1% through $(4733/93,052) * 100 = 5\%$ (i.e. an 5% decrease in emissions).
Divestment	0	No change	0	No divestment
Acquisitions	0	No change	0	No Acquisitions
Mergers	0	No change	0	No Mergers
Change in output	0	No change	0	No change in output
Change in methodology	858	Decreased	1	In FY23, the emission factors for Indian Operations were revised as per CEA v18 database leading to decrease in scope 2 emissions of 858 tonnes. This resulted in emission change of 1%. We arrived at 1% through $(858/93,052) * 100 = 1\%$ (i.e. an 1% decrease in emissions)
Change in boundary	0	No change	0	No change in boundary
Change in physical operating conditions	0	No change	0	No change in physical operating conditions
Unidentified	0	No change	0	Not Applicable
Other	0	No change	0	Not Applicable

C7.9b

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

Location-based

C8. Energy

C8.1

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

More than 5% but less than or equal to 10%

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

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

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	6122	6122
Consumption of purchased or acquired electricity	<Not Applicable>	30582	135970	166552
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>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	30582	142092	172674

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

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

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not Applicable

Other biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not Applicable

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not Applicable

Coal

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not Applicable

Oil

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not Applicable

Gas

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not Applicable

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

Heating value

LHV

Total fuel MWh consumed by the organization

6122

MWh fuel consumed for self-generation of electricity

6122

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

The High Speed Diesel is used for the running of DG Sets only in case of grid electricity shortage only.

Total fuel**Heating value**

LHV

Total fuel MWh consumed by the organization

6122

MWh fuel consumed for self-generation of electricity

6122

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

The High Speed Diesel is used for the running of DG Sets only in case of grid electricity shortage only.

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

United States of America

Consumption of purchased electricity (MWh)

17067

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

17067

Country/area

Canada

Consumption of purchased electricity (MWh)

10825

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

10825

Country/area

France

Consumption of purchased electricity (MWh)

496

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

496

Country/area

Spain

Consumption of purchased electricity (MWh)

330

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

330

Country/area

Japan

Consumption of purchased electricity (MWh)

4828

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

4828

Country/area

Portugal

Consumption of purchased electricity (MWh)

1943

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

1943

Country/area

United Kingdom of Great Britain and Northern Ireland

Consumption of purchased electricity (MWh)

8603

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

8603

Country/area

India

Consumption of purchased electricity (MWh)

91878

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

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

0

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

0

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

91878

C9. Additional metrics

C9.1

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

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

DNV_TCL_final GHG verification statement 22-23. V02_21 Jul 23.pdf

Page/ section reference

Page 2

Relevant standard

DNV VeriSustain Protocol/ Verification Protocol for Sustainability Reporting

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

DNV_TCL_final GHG verification statement 22-23. V02_21 Jul 23.pdf

Page/ section reference

Page 2

Relevant standard

DNV VeriSustain Protocol/ Verification Protocol for Sustainability Reporting

Proportion of reported emissions verified (%)

100

C10.1c

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

Scope 3 category

Scope 3: Purchased goods and services

Scope 3: Capital goods

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

Scope 3: Waste generated in operations

Scope 3: Business travel

Scope 3: Employee commuting

Scope 3: Upstream leased assets

Scope 3: Downstream transportation and distribution

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

DNV_TCL_final GHG verification statement 22-23. V02_21 Jul 23.pdf

Page/section reference

Page 2

Relevant standard

DNV VeriSustain Protocol/ Verification Protocol for Sustainability Reporting

Proportion of reported emissions verified (%)

100

C10.2

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

Yes

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Emissions reduction activities	a. Verification standard: DNV VeriSustain Protocol b. Verification or assurance cycle in place : Annual process c. Status in the current reporting year: Complete d. Type of verification or assurance: Limited e. Assurance Proportion of reported emissions verified (%): 100	CDP Assurance statement is attached. Refer Page 2 which talks about total Emission Reduction activities undertaken by Tata Communications for FY 23 amounts to 3,575,934 kWh / 2539 Tonnes of CO2e . Same has been reported in CDP 4.3 section
C8. Energy	Energy consumption	a. Verification standard: DNV VeriSustain Protocol b. Verification or assurance cycle in place : Annual process c. Status in the current reporting year: Complete d. Type of verification or assurance: Limited e. Assurance Proportion of reported energy data verified (%): 100	CDP Assurance statement is attached. Refer Page 2 , Note 2 which mentions the energy consumption by Tata Communications for FY 23 is: Energy from DG sets: 6,121,659 kWh, Energy from Grid electricity: 135,969,896 kWh, Energy from Renewable sources: 30,582,115 kWh. Same has been reported in CDP section 8.

DNV_TCL_final GHG verification statement 22-23. V02_21 Jul 23.pdf

C11. Carbon pricing

C11.1

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

No, and we do not anticipate being regulated in the next three years

C11.2

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

No

C11.3

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

Yes

C11.3a

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

Type of internal carbon price

Shadow price

How the price is determined

Cost of required measures to achieve emissions reduction targets

Benchmarking against peers

Price with material impact on business decisions

Objective(s) for implementing this internal carbon price

Change internal behavior

Drive energy efficiency

Drive low-carbon investment

Identify and seize low-carbon opportunities

Stress test investments

Scope(s) covered

Scope 1

Scope 2

Pricing approach used – spatial variance

Uniform

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

We derived the current carbon pricing based on the evaluation of energy efficiency projects implemented in FY 19- 22 and planned for FY 23 -24. The calculations factored in capital intensive projects and their energy savings over an assumed 15-year lifetime. A weighted average of the overall abatement cost and annual emission reduction for all these projects were used for arriving at final ICP value. Our research consisted of peer comparison with similar organizations and ICP across Emissions Trading Schemes (ETS) such as EU-ETS. Upon trend analysis, we see that carbon pricing has increased in the past 5 years, due to increased carbon abatement costs and increasing stringency on emissions reduction commitments. As a result of these factors, we anticipate an increase in internal carbon pricing over time. Company will further revisit evaluation of our energy efficiency projects, available investments and the market scenario and make adjustments in the future accordingly.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

56.3

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

56.3

Business decision-making processes this internal carbon price is applied to

Capital expenditure

Operations

Procurement

Opportunity management

Mandatory enforcement of this internal carbon price within these business decision-making processes

Yes, for all decision-making processes

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

Tata Communications has derived the ICP value based on thorough analysis of our energy efficiency projects and their respective abatement costs and emissions reduction potential. We are integrating GHG savings while estimating the monetary savings of a proposed energy savings measure which will result in shorter payback leading to qualification of additional number of low carbon projects. We aim to use the internal carbon pricing to make more informed project decisions and sharpen our approach towards climate change risks and opportunities.

Additionally, new expansion projects will also undergo evaluation on the environmental costs to mitigate the cost of GHG impacts. This would neutralise the GHG emissions growth due to business growth and also drive the investment in low carbon procurements. We anticipate that the setting of our ICP from Q3 of FY23 onwards will also align with our Science-based Target commitments.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers/clients

C12.1a

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

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect GHG emissions data at least annually from suppliers

Collect targets information at least annually from suppliers

% of suppliers by number

2

% total procurement spend (direct and indirect)

41

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

52

Rationale for the coverage of your engagement

In FY22, we rolled out a comprehensive Sustainability Supply Chain Framework for our operational teams by integrating the all-encompassing sustainability parameters of our supply chain and formulating a framework that comprises three tools of implementation:

- Sustainable supply chain policy
- Supplier Code of Conduct
- ESG checklist for suppliers

Since FY23, we have introduced the ESG matrix as part of our ESG checklist which comprises of various sustainability focused queries which from FY22. This has been rolled out with an aim to be completed by our strategic and key suppliers. While 100% suppliers are covered with Supplier Code of Conduct, to assess the specific climate-related performance, we have covered key suppliers, which account for 41% of the total procurement spend of 749 million USD.

Impact of engagement, including measures of success

For the financial year 2023, we targeted key and strategic suppliers. The ESG Checklist has been evaluated and we have arrived at an ESG score for each supplier. On a scale of 0-5, our average ESG score for key suppliers was 4.32/5. The scoring data is being used to develop a supplier threshold against which all suppliers will potentially be marked. Based on the data we have gathered in the past financial year, we are now working on our strategy for further supplier engagement. In addition to ESG scorecards, we will also extend supplier evaluation through obtaining their EcoVadis or CDP scorecards. This would allow us to develop more robust climate-change criterion that may be rolled out to 100% of our suppliers eventually.

The next phase also includes further engagement and collaboration with our top suppliers wherein the supplier behavior can be influenced to bring in positive climate action in all our value chain. Furthermore, acknowledgment and affirmation of 45% suppliers have been received on Supplier Code of Conduct. These suppliers have shown their support and have planned further discussions with our supply chain team on improving their current ESG strategy and expanding their own contribution to our activities.

Comment

We have also carried out a pilot assessment for onboarding supplier assessment agencies such as EcoVadis and CDP supplier engagement and aim to onboard them in the coming years.

C12.1b

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

Type of engagement & Details of engagement

Education/information sharing	Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services
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% of customers by number

3

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

0

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

As a plan we engaged with 3% of our customers in the reporting year. These customers have comprehensive supply chain framework which we are a strategic part of. This led to series of engagements (discussions and data sharing) on our climate performance, disclosure of climate strategy and our contribution towards their climate action in supply chain in the form of low carbon solutions. As part of our customer engagement strategy, we have identified 10% of our customers (700) as strategic customers, which accounted for 45% of revenue generated in FY21, to be engaged with by FY25 on climate related strategy and performance including low carbon solutions developed by Tata Communications such as:

IOT
Mobility & MOVE
Unified Communications
Cloud and managed hosting
Media Entertainment Service

Impact of engagement, including measures of success

100% of these customers have understood Tata Communications' plan and identified opportunities of low carbon solutions towards climate action. These customers are a part of low carbon services portfolio of Unified Communications which has led to reduction of 1,59,157 tonnes of CO2 at customer's end. It has been agreed that the company will report its climate performance in the public domain via CDP, or its annual sustainable development report and will share the specific update incase required by the customer.

Further, as a result of our engagements, these customers are willing to collaborate on technological and climate data inventory improvements. Within these engagements, we are also contributing towards our goal of enabling our customers to reduce their greenhouse gas emissions from 6x to 20x by FY 2027 which currently stands at 16x in FY 2023.

C12.2

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

Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Complying with regulatory requirements

Description of this climate related requirement

This requirement is pertaining to the compliance under the purview of the suppliers while deploying the products and services in our operations. As per the Supplier Code of Conduct, "suppliers shall comply with all relevant environmental laws and regulations". The suppliers are required to be in 100% compliance to all the environmental laws and regulations. These requirements form a part of Sustainable Supply Chain Policy and Supplier Code of Conduct which are applicable for all the suppliers. The Policy and Code of Conduct ensure that sustainability is being integrated into our procurement decisions, vendor selection, supplier engagement and vendor performance management. This holistic framework helps us in identifying, assessing, and reporting potential sustainability risks in the supply chain. The Supply chain team ensures the compliance of all the suppliers during the onboarding process while operations team ensures the compliance of the existing suppliers.

% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

100

Mechanisms for monitoring compliance with this climate-related requirement

First-party verification

Response to supplier non-compliance with this climate-related requirement

Exclude

C12.3

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

Row 1

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

Yes, we engage directly with policy makers

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

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

Yes

Attach commitment or position statement(s)

<https://www.tatacommunications.com/press-release/tata-communications-announces-3c-sustainability-strategy-commits-to-net-zero-by-2035/>

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

Policy makers are identified as one of the key stakeholders for climate action and one of the key pillars of our overall climate strategy. Therefore, the engagement activities are done across business divisions. In FY23, Tata Communications has committed to becoming Carbon Neutral by FY 30 and Net Zero by FY35. These commitments are in line with the Paris Agreement. In addition, we have submitted near-term targets to SBTi for Scopes 1, 2 and 3 where the targets for Scopes 1 and 2 are consistent with the 1.5 degree scenario. Considering the overall climate strategy of the company and our SBTi commitments, the Chief Sustainability Officer assesses the risks and opportunities of the company related to climate change for all business units and accordingly charts out the plan of engagement. The same plan is disseminated to all the relevant units and functions along with the top management and committees such as Sustainable Development Committee, GMC etc. for their input. This consultation brings in the focus and expertise of all the internal stakeholders for efficient engagement and ensures consistency with the overall climate strategy.

In addition to this, we are also involved in numerous industry segments and are often active in forums/ seminars relating to those segments including climate change. Given the nature of the telecommunications industry and emergence of new technologies, regulatory change is often a very considered process with regulators seeking participant comment and participation prior to implementation of any new or changed regulations. Our Regulatory team maintains a tracker to monitor and ensure timely responses to all consultation papers relevant to us. We also engage external legal counsel and consultants who liaise with regulators on our behalf. These relationships facilitate two-way communications with the regulators providing various contact options if the regulators seek information from Tata Communications and also provide channels of communication for issues the Company may want to raise with the regulators.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

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

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

As per circulation No. 20-271/2010 AS-I, Vol-II by Department of Telecommunications dated 15th May 2019, Tata Communications holds half-yearly meetings with TRAI, and submits a report on the carbon foot print of its data centers and facilities in India. Additionally, we are aligned with TRAI emission targets/ guidelines to reduce 30% carbon emission by 2019-20 and 40% by the year 2022-23 taking base year as 2011-12.

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

Climate change mitigation

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

Climate-related reporting

Climate-related targets

Other, please specify (Electricity grid access for renewables)

Policy, law, or regulation geographic coverage

National

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

India

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

Support with no exceptions

Description of engagement with policy makers

We engage with governments and regulators in public policy discussions to share our views and the perspectives of our clients, employees and communities on issues relevant to our business. Our aim is to provide the industry with highly specialized knowledge and key insights. We participate in stakeholder consultations with the Department of Telecommunications (DoT) (India), Telecom Regulatory Authority of India (TRAI) and also interact with industry associations like Federation of Indian Chambers of Commerce and Industry (FICCI) and Internet Service Providers Association of India (ISPAI) and relevant ministries. We also participated and provided our views on the consultation exercise organized by TRAI to bring transparency in its decision-making process on important issues pertaining to the Telecom sector. As per the directions given by Telecom Regulatory Authority of India (TRAI) to implement green technology in telecom sector and submission of carbon footprint report Tata Communications fully supports the proposed regulation, and engages with TRAI authorities on a periodic basis. This year we also responded to TRAI's consultation paper on Ease of Doing Business in Telecom and Broadcasting Sector. Specifically response was given towards power supply related concerns / challenges inputs with desired expectations from DISCOM (State Power distribution company) which we are experiencing in day-to-day operations at our facilities / network locations. In terms of climate related issue, our response was to allow open access in states such as Delhi (DISCOM – NDMC), Mumbai Maharashtra (DISCOM – BEST), Hyderabad Telangana etc to meet the power at affordable rate and reduction of CO2 emissions to support planet under sustainability mission of company .

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

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

These engagements are a crucial part of climate transition plan as it directly affects the access to renewable energy and other decarbonisation plans of the telecom sector. The company expects to enable more renewable energy access for consumption which is currently challenging in certain regulatory framework.

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

As per Renewable Energy Circular no.3 CE/RE/Green Power Tariff/06977 dt.23.03.2022 by Maharashtra Electricity Regulatory Commission (MERC), Tata Communications has consulted and opted for Green Power Tariff scheme which levies a tariff of Rs 0.66/kWh which is over and above the normal tariff of the respective category to the consumers opting for 100% green energy.

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

Climate change mitigation

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

Other, please specify (Access to renewable energy)

Policy, law, or regulation geographic coverage

Sub-national

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

India

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

Support with no exceptions

Description of engagement with policy makers

In FY 23, we also engaged with Maharashtra Electricity Regulatory Commission (MERC) on the green power tariff policy. To evaluate and understand the implications of the policy on the transition plan of the company, we intimated the MERC with the letter of interest and further opted for green power tariff to meet the renewable energy demand for 4 of our major facilities in Mumbai, Maharashtra.

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

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

These engagements are a crucial part of climate transition plan as it directly affects the access to renewable energy and other decarbonisation plans of the telecom sector. With this scheme we are going to increase our RE by 2 MU in Mumbai, Maharashtra alone.

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

Trade association

Federation of Indian Chambers of Commerce & Industry (FICCI)

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

Consistent

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

No, we did not attempt to influence their position

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

FICCI has a dedicated Climate Change Committee since 2018 which aims to take forward FICCI's engagement in the space of climate change, aligned with India's leading position on its nationally-determined targets under Paris Agreement with proactive actions on all fronts and not just emission reductions. FICCI's climate work further emphasises on international collaboration and developing consensus on policy and fiscal measures in line with the Paris Agreement. Our organization is dedicated to reducing GHG emissions and enhancing the resilience of the built environment and align with India's NDC ambitions. As a result, in FY23, we have undertaken goals on emissions reduction on becoming Carbon neutral by FY 2030 and Net Zero by FY 2035. In addition, we have committed to the Science-based Targets Initiative which are in line with the Paris Agreement.

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

0

Describe the aim of your organization's funding

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

C12.4

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

Publication

In mainstream reports

Status

Complete

Attach the document

integrated-annual-report-2022-23.pdf

Page/Section reference

The Natural Capital section(pg 33-35) of the attached Integrated Annual Report 2023 refers to our climate performance. In the attached Annual Report 2023, please refer- Governance : Page 68/221 ; Strategy: Page 34/221 ; Risk & Opportunity: Page 11/221 ; Emission Figures: Page 33/221-35/221 ; Assurance Statement: Page 3/221

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Comment

The report is available in the following link: <https://www.tatacommunications.com/apps/integrated-annual-report-2022-23/>

Publication

In voluntary sustainability report

Status

Underway – previous year attached

Attach the document

TataCommsSR_2022.pdf

Page/Section reference

The sustainable solutions section(pg 57-67) of the Sustainable Development Report 2022 refers to our climate performance. For the attached Sustainable Development Report 2022, please refer- Governance : Page 17/103 ; Strategy: Page 60/103 ; Risk & Opportunity: Page 78/103 ; Emission Figures: Page 65/103 ; Assurance Statement: Page 95/103

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Other, please specify (Assurance statement)

Comment

The report is available in the following link: <https://www.tatacommunications.com/apps/online-sustainable-development-report-2022/>

C12.5

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

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	UN Global Compact	Tata Communications has committed to make the UN Global Compact and its principles part of the strategy, culture and day-to-day operations of our company and to engaging in collaborative projects which advance the broader development goals of the UN, particularly the SDGs. It will also publish its commitment to stakeholders and general public. It will annually submit the Communication on Progress that describes the company's efforts to implement the ten principles .

C15. Biodiversity

C15.1

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

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	No, but we plan to have both within the next two years	<Not Applicable>	<Not Applicable>

C15.2

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

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	No, but we plan to do so within the next 2 years	<Not Applicable>	<Not Applicable>

C15.3

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

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

C15.4

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

No

C15.5

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

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	No, we are not taking any actions to progress our biodiversity-related commitments, but we plan to within the next two years	<Not Applicable>

C15.6

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

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

C15.7

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

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
No publications	<Not Applicable>	<Not Applicable>

C16. Signoff

C-FI

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

C16.1

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

	Job title	Corresponding job category
Row 1	MD & CEO	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

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

Tata Communications approaches Supply Chain Management as an art & science that guides the way we source the equipment and services required to effectively satisfy the product and service-related needs of our customers. The Company considers its suppliers an integral and indispensable part of the business and believes that a reliable and sustainable supply chain is critical to establish an organisation that is efficient and responsible. Tata Communications enforces a Supplier Code of Conduct that aligns with our corporate values, mandating adherence to ethical practices, respect for human rights, health and safety standards, environmental protection, and effective management practices. This is reinforced through contractual assurances and our due diligence framework. We expect our suppliers to act ethically and responsibly in compliance to the requirements mentioned in the Tata Code of Conduct at minimum and ensure that we treat them fairly and provide them support whenever required. We also conduct training and provide resources for our suppliers to implement our Code of Conduct effectively.

Our business relies on Indian and international supply chains that span across multiple tiers. We procure equipment from original equipment manufacturers, either directly or from their authorised distributors and for general services, we depend on contractors who undertake end to end responsibility for projects. All our suppliers are expected to meet and comply to our environmental, ethical and social requirements as detailed in our contracts, as mentioned under the Tata Code of Conduct and Mandatory Safety Standards (MSS). We hold our suppliers accountable for managing risks in their operations and we expect them to hold their own suppliers accountable to the same high standards.

All our equipment suppliers and service providers are required to adhere to the Tata Code of Conduct and MSS requirements as applicable from time to time. Our suppliers are also bound by human rights laws such as the Modern Slavery Act. Over and above this, our suppliers are required to include regular operational mandates and features relating to quality, product specific requirements, occupational health and safety as well as legal and ethical compliance.

While choosing a new supplier or continuing a relationship with an existing supplier, we assess each supplier's compliance with our rules on health, safety and responsible behavior in conjunction with our assessment of commercial factors such as quality, cost and ability to deliver on time. Suppliers of passive infrastructure are also regularly evaluated for their environmental performance. This is an important criteria for selection of a supplier, along with other commercial aspects.

We also organize regular vendor meets with OSP (outside plant) suppliers, wherein there is a review of their performance, health and safety compliance, reporting of any incidents or deviations as well as evaluation and felicitation through awards.

In FY22, we rolled out a comprehensive Sustainability Supply Chain Framework (SSCF) for our operational teams that integrates sustainability into our procurement decisions, vendor selection, supplier engagement and vendor performance management. This holistic framework helps us in identifying, assessing, and reporting potential sustainability risks in the supply chain. The SSCF comprises three tools of implementation:

- Sustainable supply chain policy
- Supplier Code of Conduct
- ESG checklist for suppliers

The framework seeks to identify, assess, control and report potential risk exposure to supply chain performance as part of precontract and evaluation, contract execution, ongoing and post-exit stages. Apart from the existing emphasis on H&S, labour compliances, and business ethics and integrity we are integrating Environment, Social and Governance policies and practices into the supply chain framework.

SC0.1

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

	Annual Revenue
Row 1	2220313667

SC1.1

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

SC1.2

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

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	We need to cover 100% of our value chain in our climate action engagement.

SC1.4

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

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

We will devise a process to collect the information on customer specific revenue from the delivery teams which will be considered for allocation of emissions. The methodology adopted is customer specific revenue will be multiplied with operational emission intensity where operational emission intensity =emissions per unit of total revenue generated.

In FY22-23, we have defined the following sustainability goal: Customer Emission GHG reduction potential of 20x by FY 2027

In alignment with this goal, we aim to devise a process to collect the information on customer specific revenue from the delivery teams which will be considered for allocation of emissions. The methodology adopted is customer specific revenue will be multiplied with operational emission intensity where operational emission intensity =emissions per unit of total revenue generated. This data will be used to track and measure customer emissions and reduction potential.

SC2.1

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

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?
No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?
No, I am not providing data

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

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

Please confirm below
I have read and accept the applicable Terms