

# Welcome to your CDP Climate Change Questionnaire 2022

## C0. Introduction

### C0.1

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

Access to transport is an essential factor of social progress and economic development making it possible to access work, medical services, education, culture and leisure activities. As a historical player in the field of sustainable mobility, Alstom considers that it is its mission to support the transition to sustainable transport systems that are, environmentally friendly, safe, efficient and inclusive.

Indeed, Alstom offers innovative and capacitive solutions that are attractive throughout their entire life cycle, based on electric and shared mobility, and responsive to social expectations. Every day around the world more than 90 million passengers are transported by Alstom's trains and systems.

> Alstom's trains and light rail vehicles provide the high-capacity backbone of the public transport systems for cities and suburban areas. Commuting passengers can rely on regional trains to bring them quickly and safely to their destinations. Intercity and high-speed trains connect the very hearts of cities with speed, comfort, and efficiency. By providing transport links within and between cities and regional areas Alstom's rail solutions facilitate economic activity and growth.

> The demonstrable advantages of Alstom's core portfolio of rail solutions encompass air quality, efficient use of space, safety, energy efficiency and emissions. Rail's ability to provide a transport alternative that brings substantial emission savings is being further enhanced by innovations delivering improved efficiency for electrical solutions, which can further reduce emission when powered by renewable energy. Proven alternatives to diesel power in rail like hydrogen fuel cells and batteries also offer further scope to lower rail already low emissions.

> Urban public transport projects based around Alstom's solutions contribute to the sustainable growth of cities by alleviating the social and economic costs of congestion and pollution, and by providing broader access to mobility. If sympathetically designed and developed these projects often offer the opportunity to anchor the sympathetic regeneration of urban landscapes.

> Large multi-year transport projects also offer the opportunity to leverage investment to deliver local development through the establishment of new industrial facilities, and the support and development of local supply chains. This is also accompanied by training and upskilling to increase the capability of the local labour force.



During fiscal year 2021/22, the company recorded sales of € 15.4 billion (€ 8.8 billion last year) and booked € 19.2 billion of orders. Alstom completed in January 2021 the acquisition of Bombardier Transportation. Headquartered in France, Alstom is now present in over 70 countries and employs 70,000 people .

All the data reported (indicators) are coming from different Alstom internal reporting systems, detailed in the respective questions. Data covering scope 1 and scope 2 emissions are gathered within the reporting and consolidation system so-called “Teranga” which is also used for financial reporting. As regards the environmental performance, all production sites, all depots operated and managed by Alstom in the case of a contract of five years or more, all permanent offices occupied and managed by Alstom and all permanent sites of more than 200 persons are consolidated in the environmental reporting. Due to different possible configurations and partnerships that could occur in projects, only the waste and environmental performance of temporary construction sites covered by an ISO 14001 certification is recorded. Environmental performance for activities conducted in sites of less than 200 persons on which the utilities are not managed by Alstom is not recorded. Generally, data for the baseline year are recalculated to take into account the new sites and allow the performance to be measured on a constant scope. 2021/22 is established as the new year of reference. Environmental results cover 78% of Alstom employees. Newly acquired activities start to report after a full calendar quarter of presence for environmental results. The environmental results of newly acquired sites are consolidated after a full calendar year of reporting. Data for the baseline year are then recalculated to take into account the new sites and allow the performance to be measured on a constant scope.

The reporting year of our GHG emission and energy data corresponds to 2021 calendar year; whereas, some information provided in the questionnaire in financial terms, such as the investment in R&D, is reported according to Alstom’s financial year (March 2021-March 2022).

Extra-financial data for legacy Bombardier Transportation are included in this CDP reporting exercise for the all year. Generally, data for the baseline year are recalculated to take into account the new sites and allow the performance to be measured on a constant scope. 2021/22 is established as the new year of reference.

## C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1, 2021	December 31, 2021	Yes	2 years

## C0.3

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

Afghanistan

Algeria  
Argentina  
Austria  
Azerbaijan  
Belgium  
Brazil  
Canada  
Chile  
China  
Colombia  
Czechia  
Democratic People's Republic of Korea  
Denmark  
Egypt  
Ethiopia  
Finland  
France  
Germany  
Greece  
Hungary  
India  
Indonesia  
Iran (Islamic Republic of)  
Ireland  
Israel  
Italy  
Kazakhstan  
Latvia  
Malaysia  
Mauritius  
Mexico  
Morocco  
Netherlands  
Nigeria  
Norway  
Panama  
Peru  
Philippines  
Poland  
Portugal  
Qatar  
Romania  
Russian Federation  
Saudi Arabia  
Singapore  
South Africa  
Spain

- Sweden
- Switzerland
- Taiwan, China
- Thailand
- Trinidad and Tobago
- Turkey
- Ukraine
- United Arab Emirates
- United Kingdom of Great Britain and Northern Ireland
- United States of America
- Venezuela (Bolivarian Republic of)
- Viet Nam

## C0.4

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

EUR

## C0.5

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

Operational control

## C-T00.7/C-TS0.7

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

Rail

## 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	FR0010220475
Yes, a Ticker symbol	ALO

## C1. Governance

### C1.1

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

Yes

#### C1.1a

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

Position of individual(s)	Please explain
Board Chair	<p>The highest level of responsibility on sustainability issues, including climate change, lies directly within the Board.</p> <p>Sustainable development issues (including environmental issues) are directly included on the Board's agenda twice per year. No specific Board member is empowered as the Board in its entirety bears this topic at its request. Therefore, the Board Chair oversees this topic.</p> <p>Example of decision :</p> <ul style="list-style-type: none"> <li>- reduction of energy consumption of solutions validated as one of the performance conditions of the Performance Share Plan for CEO</li> <li>- Within the context of an industrial site visit by the Board of Directors (Valenciennes site): review of sustainable development objectives and the associated action plans (notably in the context of combatting climate change) relating to products and production processes, along with site visits and special presentations.</li> </ul> <p>2 board members have skills regarding Climate change as rely on their previous experiences (CEO of energy fuel companies)</p>
Other, please specify All directors on board	<p>Since the whole Board is responsible for sustainability issues, one can argue that all board members bear this responsibility.</p>

#### C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
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<p>Scheduled – some meetings</p>	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Overseeing major capital expenditures, acquisitions and divestitures</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p> <p>Other, please specify</p> <p>Reviewing sector initiatives</p>	<p>Since the reshuffle of the Ethics, Compliance and Sustainable Development Committee, which has been renamed the Ethics and Compliance Committee, sustainability related topics (including environmental and climate related ones) have been integrated on the Board of Directors' agenda twice a year. Board members namely discuss progress on Alstom's Sustainability and CSR performance. In addition, they review CSR objectives, action plans and risk management processes.</p>
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### C1.1d

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

Board member(s) have competence on climate-related issues	
Row 1	Yes

### C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Sustainability committee		Quarterly

Other committee, please specify Sustainability and CSR Steering Committee	Managing climate-related risks and opportunities	Quarterly
Other committee, please specify Regional CSR champion		As important matters arise

## C1.2a

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

According to the company's Universal Declaration Document 2021/22, sustainability issues (including climate-related issues) are included on the Board of Directors' agenda twice a year. The Board of Directors is therefore responsible for sustainability issues. At the management level, the Sustainability and CSR Committee of the Executive team (composed of the Chief Operating, Chief Financial, Chief Human resources and Chief Strategy Officers and of the Presidents of two Product Lines and two Regions) discuss and take decision on the company's CSR strategy and plans. Then, the Sustainability and CSR Steering Committee of the Executive team oversees and monitors progress on CSR initiatives. Finally, Alstom's local network of Sustainability & CSR Champions helps Managing Directors to implement the company's CSR policy and initiatives, this CSR champions are tasked in declining the group sustainability policy which includes targets on climat. They are also in charge of spreading awareness on the subject through webinars and conferences.

## 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	The compensation of Alstom's Chairman & Chief Executive Officer's includes both variable and fixed compensation. A part of his short-term variable compensation is based on the overall performance of the Group, which includes the reduction of its operations' greenhouse gas emissions. Financial incentives for the management of climate-related issues and on the attainment of these targets are also provided to Alstom's management team members. Indeed, since 2022, a part of their variable compensation is linked to the achievement of the reduction targets on Scope 1 and 2 emissions.

## C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Company performance against a climate-related sustainability index	The compensation of the Alstom's Chairman & Chief Executive Officer's includes both variable and fixed compensation. A part of his short-term variable compensation is based on the overall performance of the Group (including the reduction of greenhouse gas emissions), while the other part is based on his individual performance (including the implementation of policies related to sustainability issues and the Alstom's position within ESG indices). In addition, his long-term variable compensation takes the form of a Performance Share Plan integrating a performance condition based on the achievement of objectives in terms of energy consumption reduction from solutions. In 2021, one of the performance condition of the PSP was based on the decarbonisation of the solutions offered by Alstom.
Corporate executive team	Monetary reward	Emissions reduction project Energy reduction target Company performance against a climate-related sustainability index Other (please specify) Achievement of a predefine sustainability objective	On the one hand, corporate executive team members benefit from a short term variable compensation, based on collective performance conditions (e.g., Alstom's position within ESG indices) and individual performance conditions. On the other hand, they benefit from a long term variable compensation through Alstom's Performance Share Plan, granting shares on several conditions (including the achievement of objectives in terms of energy consumption).
Other, please specify All managers with a short term incentive scheme	Monetary reward	Emissions reduction target Energy reduction target	Within Alstom structure, some countries have implemented monetary incentives for the achievement of sustainability objectives. Such is the case of Alstom UK, where all managers have been assigned a sustainability objective



			(including energy reduction target) and are rewarded if it is achieved.
Chief Sustainability Officer (CSO)	Monetary reward	Emissions reduction project Emissions reduction target Efficiency target Behavior change related indicator Company performance against a climate-related sustainability index	<p>As other corporate executive team member, Alstom's CSO benefit from a long-term variable compensation and a short-term one which is namely based on the achievement of the following sustainability objectives :</p> <ul style="list-style-type: none"> <li>• Develop actionable roadmap for Net-Zero / New Sustainability Strategy for Alstom</li> <li>- Analyse potential internal carbon pricing mechanism and present to ALT Sustainability Committee</li> <li>- Issue Diesel position</li> <li>- Ensure SBT validation of Scope 1&amp; 2 + Scope 3 products + reach annual targets</li> <li>- Define methodology and target for CO2 avoided emissions</li> <li>- Define Customer engagement method for Scope 3 Use of Sold Products</li> <li>• Establish mid-term transformation plan leveraging benchmarks and reviews with internal stakeholders to trigger the company environmental and social transition</li> </ul> <p>The CSO bears the responsibility of well-addressing the issue of climate-change within Alstom's operations and employee's set of skills. To this end, the CSO promotes the implementation of the participative workshop "Fresque du Climat" that all the CSR team members participated to. The workshop is gradually integrated to the set of training to other departments (Ethics, EHS etc.)</p>

## 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	1	3	Alstom standard processes include preparation of 3 years plan. Delivery Plans for functions are also prepared for 3 years which is relevant for example to Ecodesign, Environment Health and Safety, and Sustainability & CSR functions assessing and managing risks and opportunities in relation to climate change.
Medium-term	3	10	Alstom mid-term objectives are set on a 3 to 10 years timeline. For example, Alstom 2020 targets were set in 2015. They included energy efficiency objectives for products and operations. In addition, a new objective on electricity supply from renewable energy sources has been fixed for 2025 as a mid-term objective resulting from the updated analysis of midterm opportunities in the field. In addition, in Alstom in Motion strategy, non-financial goals were set with a 5-year horizon.
Long-term	10	30	Alstom also reviews long term aspects and identifies potential long-term risks and opportunities beyond 10 years in accordance to risk mapping and strategy processes.

## C2.1b

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

Alstom defines substantive financial or strategic impacts on the business as those generating an impact/damage/disruption that would exceed existing contingencies (>50M€). The Indicator used to define substantive Financial/strategic impact is the amount of contingencies caused by this impact (that is to say, % loss of revenue or % of direct overcost).

## 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**

1) Description of the process used to determine which risks and opportunities could have a substantive financial or strategic impact

The Chairman and Chief Executive Officer is responsible for the internal control and risk management systems and for ensuring that internal control and risk management procedures are designed and operated effectively within the Group.

Risk mapping is fully embedded in the budget and three-year planning process of the company and defines the identification, assessment, prioritization and management of risks, as well the main responsibilities within the process. At global level, categories of risks are defined and assigned to risk owners within high level management positions, who are in charge to identify, assess and address major risks. Climate change is one of the identified risks. All risks are integrated into a Group Risk Map, which is presented to the Audit Committee of the Board of Directors.

The overall Risk Mapping process is coordinated and overseen by the Internal Audit and Risk Management Vice President, to ensure that the principal risks identified are integrated into the Group Risk Map. The consolidation of all risks into the Group Risk map enables Alstom to assess the identified risks and prioritize them.

Identification of significant risks and opportunities helps Alstom to estimate the potential value at risk, align organizational controls, allocate resources to control risks and action plans and ensure acceptable level of risk in line with business objectives. The risk mapping exercise also allows to confirm that the appropriate insurance have been subscribed with regards to the insurable risks. By integrating all its risks into a Group Risk Map, Alstom is able to determine the relative significance of climate-related risks in relation to other risks.

The risk map is reviewed on an annual basis : the identification and assessment of climate-related risks also covers medium- and long-term time horizons.

In addition, to the annual risk mapping process, Alstom's specific CSR materiality analysis (reviewed in 2021) feeds into the Company's risk assessment process by evaluating the importance of sustainable development challenges for its stakeholders and the impacts on Alstom's performance.

During the Sustainability and CSR Risk Mapping exercise, focus was placed on ensuring global alignment between the different Company risk mapping exercises. This affirmed that the mapping remains fully aligned with the Group's global risk management methodology and tool.

Risks and opportunities are assessed by the teams in charge of the management of each risk in the Sustainability and Corporate Social Responsibility Steering Committee:

Sustainability and CSR, Procurement, Human Resources, Marketing, Environment Health and Safety, Ecodesign, Communication, Ethics and Compliance as well as by the Internal Audit and Risk Management Department.

Alstom's Risk Mapping process defines likelihood and impact levels to ensure consistency and common understanding throughout the company. The risk likelihood is classified as probable, possible, unlikely and improbable. Regarding impact classification, Alstom's process establishes five different categories (profit and loss, operational, human and environmental, image and reputation impacts, and health and safety) ; and four severity levels (low, medium, high and very high). Data from past events is also considered for the determination of likelihood and impact. Through the Sustainability & CSR risk and opportunity mapping and materiality assessment, Climate change has been identified within the top material issues in relation to resilience to climate change, smart mobility and environmental footprint and energy efficiency of Alstom's products/ solutions.

Opportunities are also assessed on an impact/likelihood basis as part of the risk assessment process and are prioritized accordingly, in response to risk mitigation needs or portfolio implications. Indeed, Alstom sees climate change as an opportunity to develop innovative emission free and highly efficient transport products/solutions that meet the requirements of a low carbon economy model demanded by the global community.

Risks that are identified as significant under the global risk mapping process are addressed by risk owners who are responsible for defining and steering action plans under coordination and with support of the Risk Management Department. Risk response actions (avoidance, reduction, sharing and acceptance) are evaluated on a cost vs. benefit basis.

>> Risk identification process within the upstream supply chain

Alstom works with a panel of diverse suppliers that need to be prioritized for evaluation of their CSR performance, especially those that represent a particularly high level of risk to the Company. In this line, a risk mapping of suppliers is performed every year in order to determine the level of CSR risks and prioritize those suppliers potentially having a higher risk depending on volumes of orders (above 2 m€), localisation in critical countries and commodities with high intrinsic risk.

2) Case study of how the described process is applied to Physical risks / opportunities  
Situation: some Alstom sites are considered to be exposed to extreme weather conditions.

Task: Alstom needs to lower the risk in order to assure business continuity at all time.

Action: In order to assess and address the risk of extreme weather conditions, Alstom had its insuring company analyze the exposure level of its sites regarding climate-related acute physical risks. Most at-risk sites were identified and action plans were undertaken in order to address the associated risk at each site to anticipate and mitigate the risk.

Results: when these actions plans are implemented, Alstom sites will reduce their risk to

face discontinuity in their activity due to extreme weather event.

3) Case study of how the described process is applied to Transitional risks and/or opportunities

Situation: For Alstom, climate-related transitional risks mostly relates to market and regulation. An example of risk due to market, is the increase of expectations from public authorities regarding energy efficiency and GHG emissions following the Paris agreement, as well as the upcoming European Green Deal and carbon neutrality target.

Task: Alstom needs to ensure its compliance towards emerging climate-related regulations.

Action: In Europe, where Alstom has half of its revenue, Alstom has decided to strengthen the development of its low-carbon solutions and products.

Results: Alstom is now able to adapt to upcoming technical specifications regarding energy efficiency of public rail transportation, offer competitive alternative solutions to diesel in rail and transport and lower the risks/ seize new opportunities..

**Value chain stage(s) covered**

Direct operations  
Upstream

**Risk management process**

A specific climate-related risk management process

**Frequency of assessment**

Not defined

**Time horizon(s) covered**

Long-term

**Description of process**

An assessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom's new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners. The analysis also aimed at identifying countries and sites with the highest potential exposure to natural disasters, in the current climate conditions and future ones. All climate projections are computed for time horizons in 2030 and 2050 . The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C).

**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	As a company within the transport sector, Alstom's activities are subject to numerous legal requirements, including regulations related to climate change and energy. As an example, Alstom is under regulations in Europe (half of the revenue) and France related to the publication of a carbon footprint assessment of its activities, or the implementation of energy diagnostics on sites, as well as the publication of information related to CO2 emissions of Alstom's products and services. Incoming European legislation on disclosure of ESG requires more transparency on climate mitigation and adaptation, included in the taxonomy and in the CSRD.
Emerging regulation	Relevant, always included	Incoming regulation to support the global climate ambition will have an impact in Alstom operations. Meanwhile, benefits from a bigger investment into low carbon transportation might be expected, some decision taken by government bodies will result in a direct increase of costs for the company. As an example, the incoming legislation of the Carbon Border Adjustment Mechanism will have an impact in a number of suppliers that work with the company. This will result in a direct cost increase but also in administrative indirect costs. The increase of disclosure level for investments and sales required by European taxonomy and CSRD reporting will result as well in a strategic impact for the company. Since Europe is leading the climate legislation, it can be expected that other markets will follow and require that Alstom adapts its offer as well as supply chain.
Technology	Relevant, always included	An example of Technology risk for the Group is the obsolescence of diesel products. Indeed, considering the reinforced pressure on diesel for environmental and public health reasons, Alstom expects to see a progressive phasing out of diesel on the markets it is serving in this segment, mainly Europe, by 2035. Today electrical rail solutions and systems represent most of the Company's orders. The supply of diesel rolling stock (locomotives or trains, including bimode) represented less than 5% of Alstom's orders over the last three years. The Group is ready to accompany its clients in this major transition by offering efficient alternatives to diesel trains, such as: electrification, hybrid traction and fully autonomous zero-emissions trains based on hydrogen fuel-cells or battery-powered solutions.
Legal	Relevant, always included	Potential non-compliances could negatively impact Alstom's image/reputation, business results, financial position and cashflows. In the ordinary course of business, the Group is committed to fulfil various types of obligations arising from customer contracts (among which, full performance and warranty obligations). Obligations may also arise from leases and regulations in respect of tax, custom duties, environment, health and safety. These obligations may or may not be guaranteed by bonds issued by banks or insurance companies. It is not possible to

		<p>provide any assurance that Alstom will not be required to bear the costs of or will not be found liable for environmental matters, including in relation to past cases of pollution caused by third-parties, past activities or assets sold, to the business activities of its subsidiaries or subcontractors, or to its obligations concerning health and safety. Furthermore, Alstom cannot guarantee that amounts budgeted or provisioned for renovations and investments in projects associated with the environment, health and safety will be sufficient enough to cover such an unforeseen expense or necessary investment. In addition, the discovery of new conditions or facts, or future changes in environmental (including climate change and energy) regulations or case law may result in increased liabilities or the required costs to bear that are likely to have a material effect on the business activities, financial position, earnings or future outlook of the Company, as well as on its reputation. Last but not least, a non-compliance or failure to properly disclose climate-related information of their products, against existing regulation and customers' expectations, exposes Alstom to potential legal actions, similar to the ones that faced other transportation-sector companies (e.g. Volkswagen) and large companies in the context of the French law on the Duty of Vigilance.</p>
Market	Relevant, always included	<p>The evolution of the markets in which Alstom operates is driven by a variety of complex and inter-related external factors, such as economic growth, political stability, public policies and the availability of lines of credit. The rail transportation market is highly dependent on public policy regarding the environment and transportation, and the increasing urbanization. An example of risk due to market, is the increase of expectations regarding GHG emissions from governments following Paris agreement, as well as the European Green Deal and the upcoming carbon neutrality target to be established by the new Climate Law. In Europe, where Alstom generates half of its revenue, country have set targets to reduce their global footprint, including carbon footprint of transportation. These engagements might have a direct impact on their technical specifications regarding energy type and consumptions of public rail transportation, and therefore directly impact their orders to Alstom through rising demand for low-carbon as possible solutions and products.</p>
Reputation	Not relevant, included	<p>A risk example is the decrease of demand of Alstom's products due to an economic model positioned despite current demands on low carbon products. Nevertheless, Alstom's products and solutions portfolio offering is in line with the global ambitions and countries' commitments to transition to a low carbon economy by 2050. Thus, reputation is not considered as a relevant risk type in relation to climate change, as the products/solutions Alstom offers support society's transition towards a low carbon economy model. Indeed, it is considered as an opportunity. 99% of with the three KPIs Sales, Capex and Opex reaching a best-in-class 99% eligibility to EU taxonomy</p>

		<p>Moreover, considering the reinforced pressure on diesel for environmental and public health concerns, Alstom expects to see a progressive phasing out of diesel on the markets it is serving in this segment, mainly Europe, by 2035. Today electrical rail solutions and systems represent most of the Company's orders. The supply of diesel rolling stock (locomotives or trains, including bimode) represented less than 5% of Alstom's orders over the last three years. The Group is ready to accompany its clients in this major transition by offering efficient alternatives to diesel trains, such as: electrification, hybrid traction and fully autonomous zero-emissions trains based on hydrogen fuel-cells or battery-powered solutions. Please refer to the URD 2021/22 p268</p>
Acute physical	Relevant, always included	<p>An assessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom's new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners.</p> <p>The analysis also aimed at identifying countries and sites with the highest potential exposure to natural disasters, in the current climate conditions and future ones. All climate projections are computed for time horizons in 2030 and 2050 . The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C).</p> <p>The main acute risks found after this study are Riverine flood and Tropical cyclones Windgust, which are localised in some of main Alstom countries, where industrial sites are present. The company will proceed to a follow-up study to mitigate the risk. Riverine Flood hazard represents flooding from river overflow and occurs in river basins with an area of at least 10,000 km<sup>2</sup> (Return period T =100 years). Cyclonic wind gust is the windspeed faced with a 100-years return period due to tropical cyclones.</p>
Chronic physical	Relevant, always included	<p>An assessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom's new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners.</p> <p>The analysis also aimed at identifying countries and sites with the highest potential exposure to natural disasters, in the current climate</p>



		<p>conditions and future ones. All climate projections are computed for time horizons in 2030 and 2050 . The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C).</p> <p>The main chronic risks found after this study are Cooling degree days and Combined Heat index, which are localised in some of main Alstom countries, where industrial sites are present. The company will proceed to a follow-up study to mitigate the risk. Heating/Cooling degree days (&lt; 18°C): weather-based technical index designed to describe the need for the heating/cooling energy requirements of buildings. Hot days (&gt; 35°C): the number of days where maximum temperature is above 25 °C. Dangerous days (or Heat index): Average number of days per year where the sultry index (combination of hot temperatures and high relative humidity) is above 40.</p>
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## C2.3

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

Yes

## C2.3a

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

### Identifier

Risk 1

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

Downstream

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

Market

Changing customer behavior

### Primary potential financial impact

Decreased revenues due to reduced demand for products and services

### Company-specific description

Cities alone account for about two thirds of energy consumption and more than 70% of CO2 emissions worldwide. The most advanced ones are showing their ambitions in terms of carbon neutrality, setting up restricted or low-emission traffic zones, encouraging the use of shared mobility solutions or the transition to electric power. For example, the Fossil-fuel free streets initiative of the C40 Cities Climate Leadership

Group now brings together 34 cities committed to zero emission mobility to promote the development of soft and shared modes and the procurement of zero-emissions vehicles (e.g. Los Angeles, Cape Town, Mexico City, Paris, London or Milan). Cities are also taking up the challenge and planning a ban of diesel or fossil-fuel vehicles at local level (e.g. Madrid, Paris, Amsterdam, Athens, Mexico, Munich). This could affect the market for diesel trains limiting Alstom's ability to sell diesel trains as these cities could request train operators to stop using diesel trains. Other cities/countries could follow. Considering the reinforced pressure on diesel for environmental and public health reasons, Alstom expects to see a progressive phasing out of diesel on the markets it is serving in this segment, mainly in Europe, in the medium term, and aims to accompany its customers to phase out diesel by 2035.

Management Method: Offering alternative to diesel trains, such as electrification, hybrid traction and new trains powered by hydrogen fuel-cells or batteries as well as urban solutions with a lower carbon footprint. Alstom has also enlarged its offer of electrical mobility solutions including electrical and driverless shuttles systems as well as electrical highways infrastructure solution as relevant alternatives to road solutions powered by fossil fuel.

**Time horizon**

Medium-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)**

774,000,000

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

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

**Explanation of financial impact figure**

The supply of diesel rolling-stock (locomotives or trains, including bimode) has represented less than 5% of Alstom's orders over the last three years on the legacy perimeter. The risk is the loss of these activities. Financial impact figure is therefore calculated as 5% of the reporting year sales revenue on legacy perimeter. The reporting year sales revenue was € 15.47 billion, 5%\* € 15.47 billion = € 774,000,000.

**Cost of response to risk**

30,000,000

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

1) Description of response

The Group is ready to accompany its clients in this major transition by offering efficient alternatives to diesel trains, such as: electrification, hybrid traction and fully autonomous zero-emissions trains (powered by hydrogen fuel-cell or batteries). Alstom also intends to limit the development of diesel solutions and to focus on the environmental performance of its existing trains or alternative solutions to diesel. This is fully integrated in the company's newly issued Climate change and energy transition strategy which second pillar is "enabling energy transition for sustainable mobility solutions". It should be noted that R&D spent on alternatives to diesel not only prevents risk of business reduction but also generates new business opportunities.

2) Case study providing a description of company-specific activities, projects, products and/or services

Situation: Alstom clients are concerned about reducing emissions associated to the use of their products.

Task: Alstom wants to increase its offer in zero-emissions mobility solutions.

Action: Alstom has recently enlarged its offer of electrical hybrid and autonomous zero-emissions mobility solutions, including electrical and driverless shuttles systems in its portfolio, electrical highways infrastructure solution as relevant alternatives to road solutions powered by fossil fuel and battery and hydrogen solutions for non-electrified sections.

Result: investing in R&D will enable Alstom to increase its offering in zero-emissions mobility solutions.

3) Explanation of cost calculation

Alstom does not disclose detailed figures on R&D per type of programs. Total R&D spend for FY2021/22 was 530 million euros, which represent 3.4% of sales. Estimated cost is an order of magnitude rounded from an estimated yearly average 5-10 % of global R&D budget dedicated to development and expansion of green innovation, green traction, energy efficiency and ecodesign.

It must be noted that R&D spent on alternatives to diesel should not only prevent risk of business reduction but also generate new business opportunities. Alstom does not intend to develop diesel solutions in the future and want to focus on the development of alternative solutions to diesel.

**Comment**

-

**Identifier**

Risk 2

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

Direct operations

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

Acute physical  
Flood (coastal, fluvial, pluvial, groundwater)

**Primary potential financial impact**

Increased capital expenditures

**Company-specific description**

An assessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom's new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners.

The analysis also aimed at identifying countries and sites with the highest potential exposure to natural disasters, in the current climate conditions and future ones. All climate projections are computed for time horizons in 2030 and 2050 . The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C).

The main acute risks found after this study are Riverine flood and Tropical cyclones Windgust, which are localised in some of main Alstom countries, where industrial sites are present. The company will proceed to a follow-up study to mitigate the risk. Riverine Flood hazard represents flooding from river overflow and occurs in river basins with an area of at least 10,000 km<sup>2</sup> (Return period T =100 years). Cyclonic wind gust is the windspeed faced with a 100-years return period due to tropical cyclones.

**Time horizon**

Long-term

**Likelihood**

Unlikely

**Magnitude of impact**

Medium

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

202,000,000

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

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

### Explanation of financial impact figure

The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C). The main conclusion is that 17% of the total value of assets is considered at Extreme or High risk, which could potentially represent €202 million in financial impact, taking into account the asset value and the probability of risk. There is also a potential impact of €68 million from assets considered at Extreme risk (3%), with major acute climate risks being Riverine flood and Tropical cyclones, while main chronic perils are cold and heat waves. The maximum potential figure takes a very high probability towards the assets that are at extreme or high risk.

### Cost of response to risk

50,000,000

### Description of response and explanation of cost calculation

According to an analysis by the National Institute of Building Science benefit-cost ratio (BCR) of 4:1 can be attributed to mitigation actions. Therefore, every euro spent saves at least four euros in future disaster cost. The cost of response to risk is estimated through this principle, taking into account the potential financial impact stated above. The study that was done in climate risks points out for acute risks: For Flood (all types): Stay aware of potential climate events (riverine flood risk etc and how it can impact a site and its surroundings, Secure and protect water sensitive areas with specific installations such as cofferdams, Review and/or update assets flood emergency response and the business continuity plan with respect to flash flood scenarios and riverine flood scenarios. For Tropical Cyclones Windgust: Conduct specific maintenance field visits of Alstom assets infrastructure technical parts, such as roof framing, Implement an early warning system of natural hazards on a continuous basis against tornadoes, including a crisis management process (employee safety, equipment protection, and potential environmental pollution), Conduct a war game scenario to stress test most exposed assets against an EF 2 Tornado event 200 km/h or 120 mph) and identify key vulnerabilities (including environmental pollution).

### Comment

-

### Identifier

Risk 3

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

Direct operations

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

Emerging regulation  
Carbon pricing mechanisms

### Primary potential financial impact

Increased indirect (operating) costs

**Company-specific description**

Our manufacturing activities and assets are subject to new regulations at European and national levels that are pushing companies to complete energy/GHG diagnosis and action plans to reduce energy consumption and/or GHG emissions. Moreover, companies are under carbon tax regulations in many countries increasing the price of energy. This represents a risk for Alstom since new legal initiatives impose new requirements that Alstom is obliged to comply with to avoid further risks such as: financial fines, impact on Alstom's reputation, operations disruption, etc. For example, in France (30% of the Group's energy consumptions), Alstom's sites are obliged to perform a detailed analysis on energy consumptions and GHG emissions. Moreover, as Alstom is a French company under the duty of care regulation, the Group has to set up action plan aiming to control its carbon footprint.

**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)**

108,000,000

**Potential financial impact figure – minimum (currency)****Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

Alstom 2021 scope 1 emissions were c. 108,000 tons CO<sub>2</sub>e. Assuming a carbon tax of c. 100 euros per ton in average in all geographies where Alstom operates would result in an additional cost of c. 10.8 million Euros every year, hence 108 million Euros in the next 10 years (assuming no change in scope 1 emissions).

**Cost of response to risk**

10,500,000

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

## 1) Description of response

In order to reduce its exposure to an increase in carbon tax costs, Alstom began implementing several projects that contribute to reducing its scope 1 emissions. Alstom has deployed an energy saving plan, through which sites evaluate the costs and benefits of potential implementation of different energy saving initiatives. A set of indicators and criteria is used to prioritize the initiatives and proceed with the

implementation if approved. With this plan Alstom is able to keep track of the actions under consideration, in progress, the expected and real economic and energy savings, and even initiatives that might have been rejected because main criteria were not met. Moreover, the Group has set a target to reduce its CO2 emissions of operations by 40% by 2030 vs. 2021/22 and switch to 100% renewable electricity by 2025. So far, the Group has achieved 42% of renewable electricity.

2) Case study providing a description of company-specific activities, projects, products and/or services

Situation: Alstom faces risk of increased costs due to carbon tax.

Task: Alstom wishes to reduce its GHG emissions to avoid any additional cost.

Action: In order to reduce its GHG scope 1 emissions and its exposure to an increase in carbon tax costs, Alstom implemented HVAC optimization, LED deployment, improved thermal insulation of both buildings and steam pipes.

Result: In France, the share of electricity from renewable energy sources in 2021 has risen from 70 to 80%, (excluding the Belfort and Crespin sites). The Hornell and Rochester sites in the United States are supplied with green electricity through the purchase of green certificates;

3) Explanation of cost calculation

Management cost is highly dependent on site's characteristics and what actions are eligible for implementation based on Alstom indicators and criteria. Management costs also include employees responsible for facilities' energy management, such as EHS managers accountable for energy surveys, Facility managers performing energy surveys, energy officers delivering the energy saving plan, etc. Calculation: 500 EHS personnel, 20% of their time dedicated on such projects, annual cost of 100,000 euros per employee. Calculation:  $500 \times 20\% \times 100,000 = 10$  million euros. In addition to the personnel costs, Alstom has budgeted c. 0.5 million Euros of CapEx to improve sites energy efficiency. This is why cost to manage and mitigate this risk is estimated at 10.5 million Euros.

## Comment

-

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## Identifier

Risk 4

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

Direct operations

## Risk type & Primary climate-related risk driver

Chronic physical

Temperature variability

## Primary potential financial impact

Increased capital expenditures

### Company-specific description

An assessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom's new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners.

The analysis also aimed at identifying countries and sites with the highest potential exposure to natural disasters, in the current climate conditions and future ones. All climate projections are computed for time horizons in 2030 and 2050 . The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C).

The main chronic risks found after this study are Cooling degree days and Combined Heat index, which are localised in some of main Alstom countries, where industrial sites are present. The company will proceed to a follow-up study to mitigate the risk.  
 Heating/Cooling degree days (< 18°C): weather-based technical index designed to describe the need for the heating/cooling energy requirements of buildings. Hot days (> 35°C): the number of days where maximum temperature is above 25 °C. Dangerous days (or Heat index): Average number of days per year where the sultry index (combination of hot temperatures and high relative humidity) is above 40.

### Time horizon

Long-term

### Likelihood

More likely than not

### Magnitude of impact

Medium

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

Yes, a single figure estimate

### Potential financial impact figure (currency)

39,000,000

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

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

### Explanation of financial impact figure

The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C). The main conclusion is that 17% of the total value of assets is



considered at Extreme or High risk, which could potentially represent €39 million in financial impact, taking into account the asset value and the probability of risk. There is also a potential impact of €13 million from assets considered at Extreme risk (3%), with major chronic perils are cold and heat waves. The maximum potential figure takes a very high probability towards the assets that are at extreme or high risk. The risk is evaluated at a minor level than the acute risk as the company estimates that the continuity of activity might be less impacted in days than those risks.

### Cost of response to risk

10,000,000

### Description of response and explanation of cost calculation

According to an analysis by the National Institute of Building Science benefit-cost ratio (BCR) of 4:1 can be attributed to mitigation actions. Therefore, every euro spent saves at least four euros in future disaster cost. The cost of response to risk is estimated through this principle, taking into account the potential financial impact stated above. The study that was done in climate risks points out for chronic risks: Heat Index Review industrial impact of extreme heat on production processes and products such as spared electronic/electric components) and the potential impact on plastic sheeting quality, Identify infrastructures and critical suppliers which are vulnerable to heat related climate risks and relocate if needed, Identify nature based solutions (such as vegetation pockets, to mitigate effects of heat on workers, Stay aware of potential climate events, such as heatwaves, and integrate into the Health and Safety risk management documents ways to ease the impact. For the Cooling Degree Days: Improve energy efficiency and confirm ability of existing cooling/HVAC systems to achieve water and air temperatures compatible with on site sensitive equipment, Isolate Infrastructures in order to optimize energy consumption, For future expansion, consider future extreme temperatures to optimize energy efficiency on the site, Identify power or transportation infrastructure and critical suppliers vulnerable to heat related risks.

### Comment

## 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.**

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### Identifier

Opp1

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

Downstream

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

According to latest UNIFE (Association of the European Rail Industry) study, the perspectives on the rail market are good and indicate that it should grow at an average annual rate of 2.3% over 2023-2025 period vs 2017-2019 (source: UNIFE Market Study 2018)μ.

Main climate change-related opportunities are linked to: 1) Need to decarbonize transport and to favor low carbon emission modes through public policies, regulations and/or the implementation of carbon pricing in the transport sector; 2) further integration of transport targets and action roadmaps in the NDCs of which most already identify transport as a key mitigation source and some refer specifically to rail; 3) transport operators' willingness to deploy alternative technologies to fossil fuels and the latest energy efficiency solutions/services. Energy efficiency is a major challenge for the transport operators who are sometimes among the largest energy consumers in a country. Aware of this issue, Alstom makes constant efforts to reduce the energy consumption of its rolling stock and systems. In the past years, Alstom managed to reduce the energy intensity of its trains sold for passenger transportation by c. 22% compared to 2014. Alstom's portfolio of highly energy efficient electric rail solutions and innovative solutions to support energy transition in the rail sector and towards electrical solutions in urban environment and long distance transport is very well positioned to seize these opportunities. Alstom considers that the context abovementioned will raise the following opportunities for the company:

- the financing of low carbon sustainable transport projects as well as financing of R&D projects on innovative technologies for sustainable mobility;
- the willingness of transport operators to deploy alternative technologies to fossil fuels and the latest energy efficiency solutions and services;

Alstom offers innovative capacitive solutions that are attractive throughout their entire life cycle, are based on electric and shared mobility and are responsive to social expectations.

\*This annual growth forecast from the 2017-2019 period to the 2023-2025 period is identical, on average, to the growth rate forecast in a scenario that excludes the health crisis. The size of the average market in 2023-2025 is also identical. However, the study forecasted an annual contraction in the annual worldwide accessible railway market in 2020, followed by a rebound in 2021.

**Time horizon**

Short-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium-high

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

2,410,000,000

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

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

**Explanation of financial impact figure**

Alstom's revenue was 15.47 billion Euros during fiscal year 2021/22. Alstom makes the assumption that its sales could yearly increase by 5% until fiscal year 2024/2025, and that 99 % of its products and solutions are classified as low carbon.

Calculation details: 2021/22 revenue: 15.47 billion Euros. 5% increase every year leads to a 2024/2025 revenue of 17.91 billion Euros, hence a net increase of 2.4 billion Euros  $2.4 * 99\% = 2.41$  billion Euros

**Cost to realize opportunity**

585,000,000

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

1) Description of strategy to realize opportunity

Alstom's wide range of railway products, services and solutions allows the company to be well prepared to benefit from new opportunities arising from the reinforcement of public policies that will promote the use of rail as a low carbon transport mode. In addition, Alstom has set an objective to reduce the energy consumption of its transport solutions by 25% by 2025 (vs. 2014 baseline) measured in Wh/passenger.km. Today the solutions that Alstom is able to offer to its customers are currently 21.7% more energy efficient on average than in 2014. Innovation is one of the three pillars within Alstom's business strategy and is key in improving its existing line of products and services to meet customers' requirements. To this extent, Alstom invested c. 3.6% of its revenues in R&D, in order to support the development of new products and services.

2) Case study providing a description of company-specific activities, projects, products and/or services

Alstom has invested in innovation in order to enhance efficiency through improved traction systems, weight reduction, improved aerodynamics and heating/air conditioning systems, ecodriving, breaking energy recovery and storage, and optimization at system level.

### 3) Explanation of cost calculation

As most of the solutions are considered low carbon solutions, most of the R&D can be considered globally to support the development of low carbon products to generate new business opportunities. Alstom does not disclose detailed figures on R&D per type of programs. Alstom invested around € 585,000,000 in its R&D activities in 2021/22, which represents 3.4% of sales. More specifically a portion of R&D budget is dedicated to development and expansion of green innovations, green traction, energy efficiency and ecodesign which is included in this figure.

### Comment

-

### Identifier

Opp2

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

Downstream

### Opportunity type

Products and services

### Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

### Primary potential financial impact

Increased revenues resulting from increased demand for products and services

### Company-specific description

It has been increasingly recognized that the contribution of the transport sector will be crucial if the world is to reach the target set in the Paris Agreement. It is one of the only sectors where emissions are still growing, even in developed countries. Railway will be a key contributor to reducing GHG emissions of the transportation sector. It is indeed already largely electrified and provides motorized transport service with CO<sub>2</sub> emissions per passenger\*kilometres amongst the lowest of the sector. As part of the research on decarbonized transport services, Alstom investigates train relying on hydrogen as main source of energy.

Alstom is well prepared to benefit from new opportunities arising from the reinforcement of public policies and will be in a good position to contribute to this transition. As emissions from transport continue to rise, it becomes essential to succeed in decoupling mobility from emissions growth by favouring modes with the lowest carbon footprint, meaning shared and electrical transport. Ultimately decarbonization of transport will involve electrical traction which is the core of Alstom's expertise.

The European Parliament endorsed in February 2021 the Regulation of the Recovery & Resilience Facility (RRF) which will make available a total of €672.5 billion to Member States to contribute to their national recovery plans. Member States need to allocate at least 37% of their envelope for green investments. Rail is in a good position, with the

European Smart and Sustainable Mobility strategy which sets concrete milestones to keep the European transport system's journey towards a smart and sustainable future on track. Additionally, the OEM market should benefit directly or indirectly of investments in public transports and hydrogen infrastructure. For instance:

- France is planning to spend €7 billion in hydrogen by 2030 and heavy mobility use cases such as railway.
- In Germany, €9 billion is to be spent on hydrogen.
- Spain foresees a mobilization of nearly €9 billion during the period 2020-2030 in industrial, mobility and electricity sectors.

### **Time horizon**

Medium-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium-high

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

Yes, a single figure estimate

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

10,000,000

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

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

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

Assumptions taken and figures used:

- 6,000 new hydrogen trains by 2040 and 5-10 million Euros per train.
- 33% market share for Alstom.

Calculation:  $6,000 * 5,000,000 * 33\% = 10$  billion Euros, which is a potential market size

### **Cost to realize opportunity**

585,000,000

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

1) Description of strategy to realize opportunity

Innovation is at the core of Alstom's strategy and is fully integrated into the business activities. New Alstom in Motion strategy reinforce focus on innovation and R&D on low-carbon mobility solution (Green traction, road electromobility and ecodesign) to support energy efficiency for rail and energy transition in transport. Expanding the range of solutions for low carbon mobility is also fully part of Climate Strategy. Alstom strives to develop its range of low-carbon rail offerings by developing electric mobility solutions and alternatives to fossil fuel powered products. The innovation governance is fully integrated within a wider process, starting from innovation and detection of market

needs, up to project delivery. An Innovation Board is held every three months involving R&D and innovation managers as well as the Chief Technology Officer. A worldwide network of innovation managers is in place on Alstom sites in order to deploy locally the innovation process and strategy and boost the idea creation.

2) Case study providing a description of company-specific activities, projects, products and/or services

A specific example of Alstom's innovation to develop new low carbon products is the development of Coradia iLint – which positions Alstom as the first manufacturer in the world to offer regional trains powered by hydrogen fuel cells (zero emissions). The development of Coradia iLint has been carried out through collaborations with other business partners, such as the hydrogen supplier, enabling for the first time the coupling of the transport sector to hydrogen infrastructure. This solution has attracted a lot of customers' attention resulting in discussions on potential applications in a range of countries.

3) Explanation of cost calculation

Alstom does not disclose detailed figures on R&D per type of programs. Alstom invested around € 585,000,000 in its R&D activities in 2021/22, which represents 3.4% of sales. More specifically a portion of R&D budget is dedicated to development and expansion of green innovations, green traction, energy efficiency and ecodesign which is included in this figure.

### **Comment**

The Hydrogen Council, of which Alstom is a member, released in November 2017 its "Scaling up" report which concluded that hydrogen had the potential to decarbonize the economy up to about 20%. This report also noted that, by 2030, one in ten trains/locomotives sold for currently non-electrified railways could be powered by hydrogen To fully decarbonize operations on non-electrified lines, Alstom is the first manufacturer in the world to offer regional trains powered by hydrogen fuel cells.

### **Identifier**

Opp3

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

Direct operations

### **Opportunity type**

Resource efficiency

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

Use of more efficient production and distribution processes

### **Primary potential financial impact**

Reduced indirect (operating) costs

### **Company-specific description**

Regulations at European (EU Energy Efficiency Directive (2012/27/EU)) and national levels are pushing companies to complete energy/GHG diagnosis and action plans to reduce energy consumption and/or GHG emissions. While Alstom is obliged to conduct energy surveys, these surveys represent at the same time an opportunity to reduce costs in Alstom's operations by identifying areas of improvement for energy consumption.

**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)**

9,500,000

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

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

**Explanation of financial impact figure**

Energy bill for Alstom is around € 95 M per year. Achieving a 10% energy efficiency gain by 2025 (vs. 2019) as aimed by Alstom would represent a saving of € 95 M\*10% = € 9.5 M

**Cost to realize opportunity**

15,750,000

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

1) Description of strategy to realize opportunity

Energy intensity is defined by the quantity of energy consumed related to Alstom's activity. Activity is measured in hours worked (Alstom employees and contractors). The quantity of energy consumed is recalculated in order to integrate the climate factor. Consequently, the share of energy used for heating is retreated to take into account the impact of winter temperatures on heating energy consumption. This retreatment is made on a monthly basis using the "Unified Degree Day" factor that estimates on a daily basis the difference (by geographical zone) between a baseline temperature and the average of the measured temperatures.

The Group's gross energy consumption increased compared to the previous year, due to the integration of Bombardier Transportation sites. The progressive deployment of well-established energy management practices on the new perimeter is expected to bring further energy efficiency overtime.

2) Case study providing a description of company-specific activities, projects, products and/or services

- Alstom energy bill account for 95 million Euros per year.
- Alstom wishes to generate savings on its energy bill, and therefore reduce its energy consumption.
- Alstom's energy-saving plan has already delivered good results, targeting the 40 largest consumers (85% of energy consumption). The deployment and monitoring of action plans as well as the sharing of best practices are overseen by a three-level governance structure (central, regional, site). This initiative has generated a strong dynamic to make progress and to share best practices, as such the LED lighting deployment initiative continues at Group level, deployed on 8 sites.

3) Explanation of cost calculation

Management costs include employees responsible for facilities' energy management, such as EHS managers, Facility managers, energy officers, etc.

Calculation:

- 500 EHS managers,
- salary of 100,000 Euros per year per EHS manager, including social security and taxes
- 20% of their time is dedicated to identifying opportunities, designing and implementing energy saving actions.
- In addition, c. 0.5 million Euros of Capital Expenditures to improve its sites energy efficiency.

Cost calculation:  $500 * 100,000 * 20\% + 500,000 = 10,000,000 + 500,000 = 10.5$  million Euros. Since the integration of bombardier and adding all their sites, the cost is evaluated to multiply by at least 1.5 the previous calculation.

**Comment**

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## C3. Business Strategy

### C3.1

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

**Row 1**

**Transition plan**

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

**Publicly available transition plan**

Yes

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



We have a different feedback mechanism in place

**Description of feedback mechanism**

In May 2022, a Board Meeting had been organised during which, the Vice President of Sustainability shared the targets of the Alstom In Motion strategy, the results reached to date and the future evolution of remuneration policy. The latter is planned to reinforce the integration of sustainable development issues in the incentives schemes of all employees, in particular the absolute and intensity objectives set regarding the GHG emissions on scope 1, 2 and 3.

**Frequency of feedback collection**

Less frequently than annually

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

Section "Enabling the decarbonization of the mobility", p261-271

 20220609\_Alstom\_URD\_EN.pdf

**C3.2**

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

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

**C3.2a**

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

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios RCP 4.5	Company-wide		In the context of the acquisition of Bombardier Transportation activities, a reassessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom’s new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners. The analysis aims at highlighting and quantifying key risks related to climate in line with EU Taxonomy definitions with focus both on acute and chronic impact and identify the most exposed business-related facilities.

			<p>All climate projections are computed for time horizons in 2030 (relevant for climate prevention and climate adaptation strategies to be implemented as soon as possible) and 2050 (relevant time horizon when strategic decisions need to be taken such as expansion, acquisition, prevention or closure). The climate projections are also computed under two global warming scenarios(1) RCP4.5 (also called optimistic scenario, end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (also called pessimistic scenario or “business-as-usual”, end of century warming to reach 3.3 to 5.7°C).</p>
Physical climate scenarios RCP 8.5	Company-wide		<p>In the context of the acquisition of Bombardier Transportation activities, a reassessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom’s new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners. The analysis aims at highlighting and quantifying key risks related to climate in line with EU Taxonomy definitions with focus both on acute and chronic impact and identify the most exposed business-related facilities.</p> <p>All climate projections are computed for time horizons in 2030 (relevant for climate prevention and climate adaptation strategies to be implemented as soon as possible) and 2050 (relevant time horizon when strategic decisions need to be taken such as expansion, acquisition, prevention or closure). The climate projections are also computed under two global warming scenarios(1) RCP4.5 (also called optimistic scenario, end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (also called pessimistic scenario or “business-as-usual”, end of century warming to reach 3.3 to 5.7°C).</p>

### C3.2b

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

## Row 1

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### Focal questions

Given the proven contribution of diesel to global warming, how can increasingly stringent carbon regulations affect Alstom's business model? To what extent can Alstom's complete transition to a modernized and low environmental footprint transport offer prove to be a real opportunity and ensure the company's sustainability?

To what extent can Alstom's rolling stock accompany European states in achieving the carbon neutrality set by the European Green Deal by 2050?

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

Transition risks and opportunities :

The main risks and opportunities associated to demand for low carbon solutions would be:

- Major business opportunities to provide customers with competitive sustainable and low-carbon solutions to mitigate and/or adapt to Climate Change (less GHG, extreme weather adaptability);
- Reduced orders for diesel regional trains, as countries progressively phase-out diesel;
- High energy consumption and/or indirect CO2 emissions from solutions impacting the good environmental performance of rail resulting from lack of energy efficiency or inability to decarbonise electricity mix and contributing to climate change.

Physical risks:

As impacts of climate change have become apparent around the world, adaptation challenges are attracting increasing attention. Resulting from climate change that is already unavoidable due to past emissions, frequencies of extreme weather events such as floods, droughts and heat waves are expected to continue to increase in the future. Adaptation means that the risk of impacts must be assessed, and mitigation measure need to be applied to achieve resilience.

The main risks to Alstom's business resulting from climate change include:

- the risk of destruction of installations and supply chain and/or the inability to perform if Alstom's assets are not adapted to new weather conditions;
- the risk for our employees of being exposed to severe weather events like heat or cold waves in our sites;
- the risk of product damage on site during the execution of contracts in the context of exceptional events;
- liability risks in projects if solutions are unable to withstand future evolving weather conditions.

Results of the climate risk assessment

The main acute risks found after this study are Riverine flood and Tropical cyclones Windgust, which are localised in some of main Alstom countries, where industrial sites are present. The company will proceed to a follow-up study to mitigate the risk. Riverine Flood hazard represents flooding from river overflow and occurs in river basins with an area of at least 10,000 km<sup>2</sup> (Return period T =100 years). Cyclonic wind gust is the

windspeed faced with a 100-years return period due to tropical cyclones.  
 The main chronic risks found after this study are Cooling degree days and Combined Heat index, which are localised in some of main Alstom countries, where industrial sites are present. The company will proceed to a follow-up study to mitigate the risk.  
 Heating/Cooling degree days (< 18°C): weather-based technical index designed to describe the need for the heating/cooling energy requirements of buildings. Hot days (> 35°C): the number of days where maximum temperature is above 25 °C. Dangerous days (or Heat index): Average number of days per year where the sultry index (combination of hot temperatures and high relative humidity) is above 40.

### 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	<p>In terms of products and services, Alstom favours a life cycle approach to select the main levers of environmental performance and ensure an effective way to control and reduce the footprint of its solutions. One of the priorities set in Alstom’s ecodesign policy focus on the energy efficiency of rail transport systems. Alstom has set a target to reduce the energy consumption of its portfolio of solutions by 25% by 2025 compared to 2014.</p> <p>Climatic changes to potentially affect transport systems include both gradual ones, such as sea level rise, and intensification of extreme events. The latter are more disruptive for transport systems but also the ones the effects of which are more difficult to assess. Changes of the current climate conditions that can affect transport include sea level rise, increase of the intensity and frequency of storms and winds, increase of temperature, changes in the intensity and frequency of extreme precipitation events, floods and droughts. Potentially vulnerable to these changes are both transport infrastructure and operation, while the impacts can be either permanent, e.g. loss of infrastructure, or temporary, e.g. disruption of services.</p> <p>Alstom has years of experience in demanding projects on many sites exposed to exceptional weather conditions, for example delivering material that operates in extreme cold conditions in the steppes of Kazakhstan to the high</p>

		<p>temperatures of the desert in Qatar. This expertise includes, inter alia, enhanced heating/ventilation/air conditioning functions, power supply sub-stations resilient to high temperatures and equipment designed to resist important volumes of snow, rain and corrosion from saline atmospheres. In 2022, Alstom signed a contract with Norske Tog to deliver regional trains. The new trains will be equipped with the latest ETCS(3) signalling system. The system will feature a world-first advanced odometry solution designed for the harshest winter conditions. Another example is the Lusail tramway project in Qatar, with 50 degrees Celsius outside, the temperature on board the trains must be 23-25 degrees, which has given special attention to the air conditioning systems (HVAC).</p>
Supply chain and/or value chain	Evaluation in progress	<p>Given Alstom's transition risks, and especially the one of indirect CO2 emissions from solutions, the Group is committed to reducing the amount of CO2 emissions in its value chain. For any CO2 emission source, Alstom will account the emissions and continuously improve the accuracy and robustness of data through the on-going deployment of a new digital platform dedicated to carbon accounting, launch reduction actions towards net-zero and establish milestones and targets.</p> <p>Alstom has set reduction targets on its GHG emissions from the Scope 3 "Use of sold products" (downstream value chain) from its portfolio of rolling stock solutions. The Group has committed to reduce CO2 emissions by 35% per passenger-km and ton-km by 2030 from a 2021/22 baseline – meeting the SBTi's criteria for ambitious value chain goals and on line with current best practice.</p> <p>Alstom is currently working to establish the baseline of GHG emissions for its Scope 3 "Purchased Goods and Services" (upstream value chain) and will set a target to drive GHG emission reduction in the coming year. This source is the next higher contributor of emissions in Alstom's carbon inventory after the Sold Products. Other emission categories like logistics or business travel will follow.</p>
Investment in R&D	Yes	<p>In response to transition risks identified in its climate-related risks mapping, Alstom intends to address CO2 emissions from the Use of Sold products through active R&amp;D and innovations to reduce energy consumption from solutions and develop alternative solutions to diesel, progressive decarbonization of electricity mix in the countries and active customers engagement to promote renewable electricity.</p>

		<p>Alstom invests 3.6% of its annual turnover in its Research &amp; Development (R&amp;D) Department. Innovation is at the heart of Alstom’s entrepreneurial culture and has led to applications for 9,500 patents (on historical perimeter) and the establishment of many key partnerships. "Innovation in smarter and greener mobility solutions" is now the second pillar of the new Strategy Alstom in Motion and focuses on on ecodesign and eco-manufacturing solutions, green traction and road electromobility.</p> <p>As this has been identified as one of Alstom's main risks, The Group would like to accompany its clients in their commitments of phasing out diesel powered rail, as many major companies have already pledged to become fully emission-free in this timeframe. Alstom is able to offer the complete range of green-traction solutions, Alstom is already ideally positioned to facilitate this shift with solutions like electrification, hybrid traction and fully autonomous zero-emissions trains.</p> <p>Alstom is already a pioneer in mobility with leading innovations such as the recent hydrogen train. Alstom is accelerating towards its ambition: be the global innovative player for a sustainable and smart mobility. On 1 April 2021, (after fiscal year 2020/21), Alstom completed the acquisition of Helion Hydrogen power. Helion Hydrogen Power employs nearly 30 employees and is based in Aix-en-Provence (France). The company covers the entire value chain of high-power fuel cells and has been involved in more than 100 projects and some 30 of its solutions are in operation worldwide.</p>
<p>Operations</p>	<p>Yes</p>	<p>On the basis of its environmental risk mapping, Alstom has set two main goals related to energy, namely:</p> <ul style="list-style-type: none"> <li>- reduce greenhouse gas emissions (scope 1 and 2) by 40% compared to the baseline year 2021 by 2030 (yearly reduction of 4.4%);</li> <li>- use 100% of electricity from renewable energy sources by 2025.</li> </ul> <p>Alstom’s processes for managing Climate Change related risks include an annual prevention programme, validated by Alstom’s insurance company and based on the best available standards. The objective is to ensure that appropriate prevention and protection measures are in place. Ten to 20 sites are visited every year, according to identified potential</p>

		<p>risks. Depending on the result, improvement actions are deployed as necessary. This year, a program of 30 visits (including the JFK Automated People mover site) was validated jointly with our lead insurers, HDI and Allianz, and several actions plans were deployed. Prevention programmes are also set up during the development of new projects.</p>
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### C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	<p>Revenues Direct costs Indirect costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital Assets Liabilities</p>	<p>A) Revenues &gt; According to latest UNIFE (Association of the European Rail Industry) study, the perspectives on the rail market are good and indicate that it should grow at an average annual rate of 2.3% over 2023-2025 period vs 2017-2019 (source: UNIFE Market Study 2020). Considering that rail represents Alstom’s core business and electrical rail solutions and systems comprise most of the Company’s orders, it is expected that the Company should continue in the medium term to outperform the market growth, with possible volatility over some short periods. To maximize the opportunities to increase Alstom’s revenues that arise from delivering sustainable mobility solutions two pillars of the innovation strategy focus on energy efficiency and improved sustainability and footprint of Alstom’s railways systems. Alstom R&amp;D spending (around 3.4% of revenue) contribute to the company’s development of more efficient and innovative solutions that will in turn increase the company’s growth. As an example, building on the momentum created by Coradia iLint™, a zero-emission train featuring hydrogen fuel cells and energy storage system with an autonomy range of more than 800 km, Alstom extends its range of energy autonomous trains to battery powered trains (B-EMU).</p> <p>B) Direct costs  The direct costs corresponds to the purchase of raw materials. Alstom considers recent events such as the conflict between Russia and Ukraine, inflation, the shortage of electronic components and raw materials, impacts of the resurgence of Covid in China and supply disruptions as factors that aggravate risks, and that require the ability to constantly mobilise and anticipate the resulting consequences.</p>

		<p>Alstom, 62% of whose revenues are generated in Europe 17% in Americas, 14% in Africa/Middle East, and Central Asia and 7% in Asia, can absorb and/or offset a decrease in its revenues due to a crisis in a country or region, all while maintaining its objectives and financial performance. Alstom, 62% of whose revenues are generated in Europe 17% in Americas, 14% in Africa/Middle East, and Central Asia and 7% in Asia, can absorb and/or offset a decrease in its revenues due to a crisis in a country or region, all while maintaining its objectives and financial performance</p> <p>C) Indirect costs</p> <p>&gt; Energy usage associated costs are intrinsic to Alstom's operations and therefore are considered in financial planning process in order to allocate budgets accordingly</p> <p>To manage operations in a responsible way one of the pillars of Alstom's Sustainability and CSR policy and one of the objectives associated to this pillar is to reduce the energy intensity of operations by 10% in 2025 compared to 2019 baseline.</p> <p>In order to achieve this objective and maximize the opportunities stemming from energy efficiency of operations, Alstom deploys Energy Saving Plans at asset level. These plans take into consideration the energy savings to be achieved, the investment required and the return on investment as criteria to prioritize the projects/initiatives. These investments are included in the financial planning process of Alstom's operations sites.</p> <p>Achieving the target of 10% of electricity produced on-site would translate into an annual saving equivalent to the 10% of Alstom's energy bill, approximately 9.5M€.</p> <p>D) Capital expenditures and allocation</p> <p>&gt; Innovation (and related CapEx) at Alstom is intrinsically linked to the energy efficiency and/or low emissions of products/solutions</p> <p>Innovation is one of the five pillars of the Company's strategy. At the same time, Alstom's innovation strategy is comprised of six pillars, three of which being climate-and energy-related (green traction and energy performance, road electromobility, eco-design and manufacturing).</p> <p>As an example of how capital expenditure are impacted by the risks/opportunities stemming from climate change/energy related issues, Alstom is sustaining its investment to improve high speed lines network operation by increasing transport capacity and fleet energy consumption optimization. An intercity train ATO (Automatic Train Operation) has been already demonstrated in China and a test campaign has been also completed in 2017 in Belgium with up to 40% energy saving</p>
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		<p>demonstrated.. In fiscal year 2021/22, Alstom R&amp;D spending were c. 3.4% of its total revenue, which contributes to maintain the company as a key player in smart mobility solutions and keep offering innovative capacitive solutions that are attractive throughout their entire life cycle and are based on electric and shared mobility, helping Alstom's clients to achieve their climate change commitments.</p> <p>E) Acquisitions and divestments        &gt; Alstom aims at being leader in sustainable mobility, through organic and external growth.        In 2020, an acquisition performed by Alstom was driven by its ambition to grow its market share on sustainable mobility.        Alstom took a 13% shareholding in EasyMile, an innovative start-up developing autonomous driving solutions. The investment forms part of the start-up's ongoing capital increase. In parallel, Alstom and EasyMile have signed a commercial partnership agreement aiming at joining their forces to provide integrated solutions for urban transportation. Alstom will be present at EasyMile's board. Alstom has put innovation at the heart of its 2025 strategy to reinforce the competitiveness and attractiveness of its portfolio of offerings and anticipate future market trends. As climate change policy framework is already shaping market trends, Alstom takes into consideration climate change related opportunities into the acquisitions/divestment process.</p> <p>F) Assets &amp; Liabilities        An assessment of risks related to natural hazards on the full perimeter has been launched in 2021/22 fiscal year in order to develop and implement a full prevention programme for climate change risks for Alstom's new perimeter of activities. Alstom mandated AXA XL and AXA Climate to start and conduct a new exhaustive climate change related exposure analysis of more than 900 sites, operated by Alstom as well as a few from suppliers and partners.</p> <p>The analysis also aimed at identifying countries and sites with the highest potential exposure to natural disasters, in the current climate conditions and future ones. All climate projections are computed for time horizons in 2030 and 2050. The climate projections are also computed under two global warming scenarios RCP4.5 (end of century warming to reach 2.1 to 3.5°C) and RCP8.5 (end of century warming to reach 3.3 to 5.7°C). The main conclusion is that 17% of the total value of assets is considered at Extreme or High risk, which could potentially represent €202 million in financial impact, taking into account the asset value and the probability of risk.</p>
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## C3.5

**(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?**

Yes

### C3.5a

**(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.**

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#### Financial Metric

Revenue

**Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)**

99

**Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)**

**Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)**

**Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world**

The EU Taxonomy regulation (Regulation (EU) 2020/852) was introduced to propose a framework to facilitate sustainable investment as part of EU's efforts to implement the European Green Deal. It is a key axis of the European Commission's action plan to achieve EU's ambitious goal of carbon neutrality by 2050 by redirecting capital flows towards sustainable activities and help navigate transition to a low carbon economy. The taxonomy serves as a standard classification system for determining which economic activities are considered as environmentally sustainable. An economic activity is considered as Taxonomy-eligible economic activity if it is described in Annex I or Annex II of the Climate Delegated Act irrespective of whether that economic activity meets the technical screening criteria specified in the Climate Delegated Act. The Taxonomy-eligible KPIs have been based on the data from the Consolidated Financial Statements information for the financial year ending 31 March 2022, which were prepared in accordance with International Financial Reporting Standards as adopted by the European Union (see chapter 3).

The Turnover for the Group amounts to €15.47 billion with an eligibility rate of 99%.

Considering EU taxonomy activities, this includes 77% under "3. Manufacturing"

(covering rolling stock, components and services), 22% under “6. Transport” (covering mainly infrastructure, track-side signalling and systems) and 1% non-eligible.

The Taxonomy-eligible turnover rate has been calculated as that proportion of turnover related to the Group’s Taxonomy-eligible economic activities (numerator) over the total Turnover (denominator).

The Turnover (denominator) consists of the Groups consolidated turnover calculated in accordance with IAS 1.82 (a) and reported in the Consolidated Financial Statements in this report. The accounting policy applicable for revenue recognition can also be found as part of the Consolidated Financial Statements.

Noteworthy is the fact that, following the future works that will be conducted on Alstom's activities regarding their alignment on EU Taxonomy standards, we might revise the above-reported metrics in the following years.

### **Financial Metric**

CAPEX

### **Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)**

99

### **Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)**

### **Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)**

### **Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world**

The EU Taxonomy regulation (Regulation (EU) 2020/852) was introduced to propose a framework to facilitate sustainable investment as part of EU’s efforts to implement the European Green Deal. It is a key axis of the European Commission’s action plan to achieve EU’s ambitious goal of carbon neutrality by 2050 by redirecting capital flows towards sustainable activities and help navigate transition to a low carbon economy. The taxonomy serves as a standard classification system for determining which economic activities are considered as environmentally sustainable. An economic activity is considered as Taxonomy-eligible economic activity if it is described in Annex I or Annex II of the Climate Delegated Act irrespective of whether that economic activity meets the technical screening criteria specified in the Climate Delegated Act. The Taxonomy-eligible KPIs have been based on the data from the Consolidated Financial Statements information for the financial year ending 31 March 2022, which were prepared in accordance with International Financial Reporting Standards as adopted by

the European Union (see chapter 3).

The Capital Expenditure for the Group amounts to €0.61 billion with an eligibility rate of 99%.

The Taxonomy-eligible capital expenditure rate has been calculated as that proportion of the Capital Expenditure that is associated with the Group's Taxonomy-eligible economic activities (numerator) over the Capital Expenditure (denominator).

The Capital Expenditure (denominator) consists of additions to tangible, intangible fixed assets and right of use assets during the financial year, before any depreciation, amortization, re-measurement, excluding any revaluation, impairment, and changes in fair value as reported in the Consolidated Financial Statements. This includes investments from business combinations during the fiscal year. Acquired goodwill is excluded from the calculations. The variation resulting from the Purchase Price Allocation (see note 1.1.1) has not been included. The Capital Expenditure made during the year has been considered at the closing exchange rate.

Noteworthy is the fact that, following the future works that will be conducted on Alstom's activities regarding their alignment on EU Taxonomy standards, we might revise the above-reported metrics in the following years.

### **Financial Metric**

OPEX

### **Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)**

99

### **Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)**

### **Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)**

### **Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world**

The EU Taxonomy regulation (Regulation (EU) 2020/852) was introduced to propose a framework to facilitate sustainable investment as part of EU's efforts to implement the European Green Deal. It is a key axis of the European Commission's action plan to achieve EU's ambitious goal of carbon neutrality by 2050 by redirecting capital flows towards sustainable activities and help navigate transition to a low carbon economy. The taxonomy serves as a standard classification system for determining which economic activities are considered as environmentally sustainable. An economic activity

is considered as Taxonomy-eligible economic activity if it is described in Annex I or Annex II of the Climate Delegated Act irrespective of whether that economic activity meets the technical screening criteria specified in the Climate Delegated Act. The Taxonomy-eligible KPIs have been based on the data from the Consolidated Financial Statements information for the financial year ending 31 March 2022, which were prepared in accordance with International Financial Reporting Standards as adopted by the European Union (see chapter 3).

The Taxonomy qualified operating expenses for the Group amounts to €0.64 billion with an eligibility rate of 99%. The Taxonomy-eligible operating expenses mainly consists of non-capitalized portion of research and development costs associated with the Group's Taxonomy-eligible economic activities.

The Taxonomy-eligible operating expenses rate has been calculated as that proportion of the operating expenses that are associated with the Group's Taxonomy-eligible economic activities (numerator) over the Taxonomy qualified operating expenses (denominator). It should be noted that the Taxonomy has its own definition of operating expenses, and the Taxonomy qualified operating expenses represent only a proportion of the total operating expenses of the Group as reported in the Consolidated Financial Statements. The Taxonomy qualified operating expenses (denominator) consists of non-capitalized direct costs that relate to research and development, building renovation and repair, short-term lease contracts, staff costs, general maintenance and service costs relating to the day-to-day servicing of the property, plant, and equipment.

Noteworthy is the fact that, following the future works that will be conducted on Alstom's activities regarding their alignment on EU Taxonomy standards, we might revise the above-reported metrics in the following years.

## C4. Targets and performance

### C4.1

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

- Absolute target
- Intensity target

### C4.1a

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

---

**Target reference number**

Abs 1

**Year target was set**

2021

**Target coverage**

Company-wide

**Scope(s)**

Scope 1

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

**Base year**

2021

**Base year Scope 1 emissions covered by target (metric tons CO<sub>2</sub>e)**

107,073

**Base year Scope 2 emissions covered by target (metric tons CO<sub>2</sub>e)**

121,789

**Base year Scope 3 emissions covered by target (metric tons CO<sub>2</sub>e)**

**Total base year emissions covered by target in all selected Scopes (metric tons CO<sub>2</sub>e)**

228,862

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

95

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

95

**Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)**

**Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**

95

**Target year**

2030

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

40

**Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]**

137,317.2

**Scope 1 emissions in reporting year covered by target (metric tons CO2e)**

107,073

**Scope 2 emissions in reporting year covered by target (metric tons CO2e)**

121,789

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

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

228,862

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

0

**Target status in reporting year**

New

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

Yes, and this target has been approved by the Science Based Targets initiative

**Target ambition**

1.5°C aligned

**Please explain target coverage and identify any exclusions**

Alstom commits to reduce absolute scope 1 and 2 GHG emissions by 40% by 2030 compared to FY2021/22 (i.e., the base year).

2021 data, all scopes: 228862 teq CO2

2021 data, scope 1: 107073 teq CO2

2021 emissions, scope 2: 121789 teq CO2 (market/based)

These data cover 95% of Alstom's emissions (the rest is under control of a customer, a third party, etc.).

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

Alstom set a target to switch to 100% electricity supply from renewable sources by end of 2025. Alstom is also increasing the amount of self-generated renewable electricity with solar panels. Alstom also set the target to decrease the energy emissions intensity of its operations 10% from FY2018-19 to FY2024-25. This is being achieved through initiatives including installation of LED lighting, upgrading painting booths, and increasing surface compacting.

Other sources of emissions are reported and action plans to reduce emissions from these sources are under development, this includes investigating the use of heat pumps

to provide heating.

A three-level governance (central, regional, site) ensures the deployment of action plans, their follow-up and the sharing of best practices. The result is a strong dynamic for advancing the issues and sharing best practices. For example, the LED lighting deployment initiative is continuing at Group level. By 2021, 8 sites have been fully equipped (Katowice, La Rochelle, Savigliano, Santa Perpetua, Nola, Le Creusot, Tarbes, Charleroi) and 13 other sites partially equipped. Alstom has commissioned an external expert to improve Alstom's energy efficiency monitoring for the next fiscal year. The Group has signed contracts for the supply of electricity from renewable energy sources where economically viable. This initiative, launched a few years ago in Alstom's historical perimeter, has now been extended to the new perimeter. As a result, Alstom's electricity supplies are fully sourced from green sources in Belgium, the Netherlands, Brazil and Sweden and partially in the UK, Germany, Spain, Italy and Poland through contracts with its electricity suppliers. In France, the share of electricity from renewable sources in 2021 has increased from 70% to 80% (excluding the Belfort and Crespin sites). Finally, the Hornell and Rochester sites in the United States are supplied with green electricity through the purchase of green certificates.

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

## C4.1b

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

---

**Target reference number**

Int 1

**Year target was set**

2022

**Target coverage**

Company-wide

**Scope(s)**

Scope 3

**Scope 2 accounting method**

**Scope 3 category(ies)**

Category 11: Use of sold products

**Intensity metric**

Metric tons CO<sub>2</sub>e per passenger kilometer



**Base year**

2021

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

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

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

0.0000046

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

0.0000046

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

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

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

31

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

34

**Target year**

2030

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

35

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

0.00000299

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

0

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

30

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

**Intensity figure in reporting year for Scope 2 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in reporting year for Scope 3 (metric tons CO<sub>2</sub>e per unit of activity)**

0.0000046

**Intensity figure in reporting year for all selected Scopes (metric tons CO<sub>2</sub>e per unit of activity)**

0.0000046

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

0

**Target status in reporting year**

Revised

**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**

2°C aligned

**Please explain target coverage and identify any exclusions**

Alstom has committed to reduce the energy consumption of its transport solutions by 35% by 2030 (compared with baseline 2021) measured in gCO<sub>2</sub>e/passenger\*km. Alstom has set a key performance indicator to monitor its solutions' energy efficiency. The indicator consolidates the global energy consumption reduction of its portfolio based on a weighted average of the energy consumption reductions from standardised train products – the so-called “reference solutions” – as well as from those projects. The Company has established standardised methodologies for energy simulations based on sets of assumptions defined for each type of train (mission profile, occupancy, temperature, etc.) in order to ensure the consistency of collected data.

In 2021/22, Alstom reported emissions of 4.6 gCO<sub>2</sub>e/p.km for passenger trains.

About the calculation of % of reduction anticipated on scope 3:

During 2021, Alstom integrated the Bombardier portfolio and contracts into the carbon inventory for Sold Products. After the external verification, a new baseline was established to take into account this important change in the perimeter. New carbon objectives are based on this new portfolio. If comparing to 2020, absolute emissions increase from 18.7 MTCO<sub>2</sub> to 30.2 MTCO<sub>2</sub> for the rolling stock, explained by the integration of more contracts.

It is of +47% ABS TCO<sub>2</sub> for locomotives and +99% for passenger.

For passengers, we move from 4.60 gCO<sub>2</sub>/paxkm to 4.58 gCO<sub>2</sub>paxkm, so the anticipated abs scope 3 change is -0.43% (66 kTCO<sub>2</sub> avoided)

For freight, we move from 9.3 gCO<sub>2</sub>/tkm to 9.2 gCO<sub>2</sub>/tkm, so the anticipated abs scope

3 change is -1.43% (395 kTCO2 avoided)

We expect a CO2 reduction of 31% by 2030 from our sold products. This is obtained from the projection of activity on passenger-km and ton-km up to 2030 and then multiplying the carbon performance ratio from the baseline and from the expected target. The difference is the announced 31% reduction.

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

Over the last three years, we have received orders for both battery and hydrogen powered regional trains in Germany, Italy and France. Offering both hydrogen and battery is an important milestone for Alstom, as it further cements central role in the emission-free mobility market. Alstom would like to accompany its clients in their commitments of phasing out diesel powered rail, as many major companies have already pledged to become fully emission-free in this timeframe. Alstom is able to offer the complete range of green-traction solutions, Alstom is already ideally positioned to facilitate this shift with solutions like electrification, hybrid traction and fully autonomous zero-emissions trains.

The levers for action that Alstom identified are the following: Electrification; bi-mode/Hybrid; Catenary-free zero emissions solutions

Below are examples of technologies designed to lower the use of Alstom's solutions : Catenary-free zero emissions solutions that aim to fully decarbonise operations on non-electrified lines and after being the first manufacturer in the world to offer regional trains powered by hydrogen fuel cells. The following are technologies applications :

- Battery solutions are generally more suitable for short and medium-length non-electrified sections. The new battery technology that Alstom is currently developing can increase distances to over 120 km. However, these numbers are far from being final, as we are constantly learning more and making improvements in this aspect. Starting on 24 January 2022, the Battery Electric Multiple Unit (BEMU) will begin revenue service with passengers in Baden-Württemberg and in Bavaria from 5 February. The trial operation provides new technical and operational knowledge in handling this innovative climate-friendly drive technology. The test operation will run until the beginning of May 2022;
- Hydrogen solutions: Hydrogen-based solutions are preferable for long-range needs. Hydrogen trains offer a clean, reliable and cost efficient alternative tracks that aren't electrified. Since the launch of the Coradia iLint, the world's first hydrogen train, Alstom has received follow-up orders in Italy and France, led a pilot project in the UK and ran successful test runs in Austria, the Netherlands and Germany.

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

---

**Target reference number**

Int 2

**Year target was set**

2022

**Target coverage**

Company-wide

**Scope(s)**

Scope 3

**Scope 2 accounting method**

**Scope 3 category(ies)**

**Intensity metric**

Other, please specify

Metric tons CO<sub>2</sub>e per ton kilometre

**Base year**

2021

**Intensity figure in base year for Scope 1 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in base year for Scope 2 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in base year for Scope 3 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in base year for all selected Scopes (metric tons CO<sub>2</sub>e per unit of activity)**

0.0000092

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

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

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

59

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

66

**Target year**

2030

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

35

**Intensity figure in target year for all selected Scopes (metric tons CO<sub>2</sub>e per unit of activity) [auto-calculated]**

0.00000598

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

0

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

**Intensity figure in reporting year for Scope 1 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in reporting year for Scope 2 (metric tons CO<sub>2</sub>e per unit of activity)**

**Intensity figure in reporting year for Scope 3 (metric tons CO<sub>2</sub>e per unit of activity)**

0.0000092

**Intensity figure in reporting year for all selected Scopes (metric tons CO<sub>2</sub>e per unit of activity)**

0.0000092

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

0

**Target status in reporting year**

Revised

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

Yes, and this target has been approved by the Science Based Targets initiative

**Target ambition**

2°C aligned

**Please explain target coverage and identify any exclusions**

Calculation based on the fiscal year's sales-related carbon emissions and their associated passenger.km or ton.km. (Emission factors from IEA 2019). CO<sub>2</sub> emission reduction targets had been reviewed to take into account Alstom new perimeter of activities (with Bombardier Transportation) and is currently reviewed by the Science Based Targets Initiative.

Alstom has committed to reduce the energy consumption of its transport solutions by 35% by 2025 (compared with baseline 2021) measured in gCO<sub>2</sub>e/ton\*km.

Alstom has set a key performance indicator to monitor its solutions' energy efficiency.

The indicator consolidates the global energy consumption reduction of its portfolio based on a weighted average of the energy consumption reductions from standardised train products – the so-called “reference solutions” – as well as from those projects. The Company has established standardised methodologies for energy simulations based on sets of assumptions defined for each type of train (mission profile, occupancy, temperature, etc.) in order to ensure the consistency of collected data.

In 2021/22, Alstom reported emissions of 9.2 gCO<sub>2</sub>e per ton.kilometre.

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

Over the last three years, we have received orders for both battery and hydrogen powered regional trains in Germany, Italy and France. Offering both hydrogen and battery is an important milestone for Alstom, as it further cements central role in the emission-free mobility market. Alstom would like to accompany its clients in their commitments of phasing out diesel powered rail, as many major companies have already pledged to become fully emission-free in this timeframe. Alstom is able to offer the complete range of green-traction solutions, Alstom is already ideally positioned to facilitate this shift with solutions like electrification, hybrid traction and fully autonomous zero-emissions trains.

The levers for action that Alstom identified are the following. Electrification; bi-mode/Hybrid; Catenary-free zero emissions solutions

Example of technologies designed to lower the use of Alstom solution :

Catenary-free zero emissions solutions: to fully decarbonise operations on non-electrified lines and after being the first manufacturer in the world to offer regional trains powered by hydrogen fuel cells, Alstom has now developed a full range of solutions:

- Battery solutions are generally more suitable for short and medium-length non-electrified sections. The new battery technology that Alstom is currently developing can increase distances to over 120 km. However, these numbers are far from being final, as we are constantly learning more and making improvements in this aspect. Starting on 24 January 2022, the Battery Electric Multiple Unit (BEMU) will begin revenue service with passengers in Baden-Württemberg and in Bavaria from 5 February. The trial operation provides new technical and operational knowledge in handling this innovative climate-friendly drive technology. The test operation will run until the beginning of May 2022;
- Hydrogen solutions: Hydrogen-based solutions are preferable for long-range needs. Hydrogen trains offer a clean, reliable and cost efficient alternative tracks that aren't electrified. Since the launch of the Coradia iLint, the world's first hydrogen train, Alstom has received follow-up orders in Italy and France, led a pilot project in the UK and ran successful test runs in Austria, the Netherlands and Germany.

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

## **C4.2**

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

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

## C4.2a

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

---

**Target reference number**

Low 1

**Year target was set**

2020

**Target coverage**

Company-wide

**Target type: energy carrier**

Electricity

**Target type: activity**

Consumption

**Target type: energy source**

Renewable energy source(s) only

**Base year**

2021

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

3,693

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

42

**Target year**

2025

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

100

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

42

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

0

**Target status in reporting year**

Revised

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

Yes, Abs1

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

Science Based Targets initiative

**Please explain target coverage and identify any exclusions**

The Group has made an ambitious commitment to use 100% of electricity from renewable energy sources by 2025, as part of its global initiative for the environment, among which, 10% are to be produced on-site. The Company has signed contracts for the supply of electricity from renewable energy sources where it was economically viable. For example, all of Alstom's electricity supplies come from green sources in Belgium, the Netherlands, the United Kingdom, Germany, Spain, Italy, Brazil, on the Canadian site Sorel-Tracy, and in Poland for 86% of the electricity, through contracts with its electricity suppliers. In France, the share of electricity from renewable energy sources in 2021 has risen from 70 to 80%, (excluding the Belfort and Crespin sites where Alstom does not manage the electricity contract directly). Finally, the Hornell and Rochester sites in the United States are supplied with green electricity through the purchase of green certificates.

Following revision of the methodology to calculate KPI on RE100 technical guidance, 2018 has been recalculated to be comparable with 2019 (at 36% for 2018).

As relying on Bombardier Transportation integration in the beginning of 2021, we updated the base year with 2021 (the same target had 2019 as a base year in our last year CDP answer).

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

The next step is also to find solutions for switching to biogas. The solutions being studied are: biomass, geothermal, solar and heat pumps.

**List the actions which contributed most to achieving this target****C4.2c****(C4.2c) Provide details of your net-zero target(s).****Target reference number**

NZ1

**Target coverage**

Company-wide

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

Abs1

Int1

Int2



**Target year for achieving net zero**

2050

**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

**Please explain target coverage and identify any exclusions**

The Company is committed to supporting carbon neutrality in transport and has defined its Corporate Climate and Energy Transition strategy covering all its activities along three axes, based on its analysis of the sector and the Company's challenges:

The net-zero ambition means that climate targets will be gradually expanded to cover the whole value chain, by setting the right measure efforts and establishing the milestones towards absolute CO2 reduction by 2050

**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**

Intermediate targets on scope 1, 2 and 3 had been set to reach the net zero target in 2050. First milestones are to be reached by 2025:

- placing energy-efficient electrical rail solutions at the heart of its portfolio – Alstom has set a target to reduce the energy consumption of its portfolio of solutions by 25% by 2025 compared to 2014;

- decarbonising its operations, with the goal of achieving 100% renewable energy in its operations by 2025

And others by 2030 (targets reviewed to take Bombardier Transportation into account). These targets will be submitted to the SBTi initiative for validation in the course of 2022.

- Alstom is committed to reduce absolute direct GHG emissions (scope 1) and indirect GHG emissions (scope 2) from Alstom sites by 40% by 2030 from 2021/22 baseline – aligned with the reductions required to keep global warming to 1.5°C scenario, the most ambitious goal of the Paris agreement.

- Alstom is committed to reduce GHG emissions (scope 3) from the use of sold products from its portfolio of rolling stock solutions by 35% per passenger-km and ton-km by 2030 from a 2021/22 baseline – meeting the SBTi's criteria for ambitious value chain goals and on line with current best practice.

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

Carbon removal – Alstom will ensure the balance of its residual CO2 emissions through carbon sequestration project. Even if the immediate focus is on reducing the carbon footprint, pilot projects will be launched in coming years to start gaining experience on this field.

## 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 CO<sub>2</sub>e savings.**

	Number of initiatives	Total estimated annual CO <sub>2</sub> e savings in metric tonnes CO <sub>2</sub> e (only for rows marked *)
Under investigation		
To be implemented*	3	1,658
Implementation commenced*	37	1,754.9
Implemented*		
Not to be implemented		

### C4.3b

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

#### Initiative category & Initiative type

Low-carbon energy generation  
Solar PV

#### Estimated annual CO<sub>2</sub>e savings (metric tonnes CO<sub>2</sub>e)

1,658

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

Scope 2 (location-based)  
Scope 2 (market-based)

#### Voluntary/Mandatory

Voluntary

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

357,300

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

4,503,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

21-30 years

**Comment**

Initiatives to install solar PV panels to self-consume green electricity have been launched on different sites such as la Rochelle in France, Wroclaw in Poland or Ubunye in South Africa.

---

**Initiative category & Initiative type**

Energy efficiency in buildings  
Heating, Ventilation and Air Conditioning (HVAC)

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

579.6

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

Scope 1

**Voluntary/Mandatory**

Voluntary

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

211,266

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

967,472

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

21-30 years

**Comment**

In France, Germany, Australia, Italy and Belgium, some factories had undertaken the replacement of ageing heating systems to improve the energy efficiency of the buildings. Those projects enable a decrease of fuel oil and gas consumption, associated with scope 1 emissions.

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**Initiative category & Initiative type**

Energy efficiency in buildings  
Lighting

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

11,753

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

Scope 2 (location-based)

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

707,520

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

3,419,135

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Alstom has replaced conventional lighting systems such as pit light or sodium lights by LED in some of its factories (France, Germany, Italy, England, Spain, Belgium and Poland), enabling a reduction of electricity consumption and scope 2 GHG emissions.

**C4.3c**

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

Method	Comment
Dedicated budget for energy efficiency	Alstom has a dedicated Budget managed at site and Region level. Alstom has an Energy Management procedure in place, which sets the company general framework in terms of energy management and usage. All Alstom units must comply with this internal procedure. One of its key principles is that all units must implement continuous improvement through monitoring and regular review of figures, analysis of top consumers, deployment of energy saving action plan and monitoring of its deployment. As per the abovementioned procedure all permanent facilities consuming more than 5 GWh per year must organize an energy survey every 4 years as a minimum, either externally or internally by qualified personnel, in accordance with applicable regulations. At early phase of projects, project management must complete a review of energy sources and main usages during project field activities and at project office to support establishment of action plan.
Internal incentives/recognition programs	Innovation contest: "I Nove You™" "I Nove You™" is a yearly company-wide programme designed to unleash the innovative power of all Alstom's people. The 12th has been a resounding success, and with over 2,000 participants, and a total of 620 projects submitted from 23 countries, Alstom teams achieved a new record. Open to all employees

	<p>across all business lines and sites, the competition rewards creativity in every shape and form, spanning products, systems, processes, sustainable development, and even open innovation. The 2020 Alstom’s Innovation Awards ceremony introduced a brand-new category called “Innovation to market”. This is proof of Alstom’s willingness to keep engaging more and more in innovation, through the exploration of all fields of creativity. The prize list is fully aligned with Alstom’s strategy as it includes significant innovations for a smarter and more sustainable mobility. Over the years, “I Nove You™” has given rise to the creation of several innovative solutions, enhancing Alstom expertise and customer service. This decade has seen the birth of innovations such as Coradia iLint, the world’s first hydrogen train, StationOne, the online platform for spare parts, as well as HealthHub, Alstom’s digital maintenance suite, or Hesop, a regenerative braking system that can reinject up to 99% of energy into the network. Additionally, the Company undertakes communication and awareness actions on good environmental practices for its employees, especially within the framework of ISO 14001. These actions are completed by mobilization programs often combined with health and safety awareness programs.</p>
<p>Lower return on investment (ROI) specification</p>	<p>Alstom’s operational sites keep a “Energy Efficiency Plan” where they register the different potential projects to be undertaken. The projects are prioritized according to the following criteria: cost planned, return on investment, implementation time and impact on QHS. These prioritization criteria have different scoring categories (from level 1 to 4) as per pre-defined values ranges.</p> <p>Regarding the ROI, projects with ROI lower than 3 years are preferred. The Energy Efficiency Plans also register the annual planned savings and real savings (once the project or initiative has been implemented) regarding kWh, monetary value and % of savings per site invoice.</p>

## C4.5

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

Yes

## C4.5a

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

---

### Level of aggregation

Group of products or services

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

The EU Taxonomy for environmentally sustainable economic activities

**Type of product(s) or service(s)**

Rail

Other, please specify

Electric, hybrid and diesel trains

**Description of product(s) or service(s)**

Alstom's portfolio of transport solutions includes:

- Rolling-stock and components (Light rail, metro, regional locomotives and high-speed trains, people movers) including hybrid locomotives (Prima H3) and fuel-cells or battery powered regional trains, amongst others;
- Digital Integrated System (infrastructure, system, Signalling, Turnkey for autonomous solutions): track and power supply solutions.
- Services (Maintenance, modernisation, energy efficiency services, spare parts);

The vast majority (99% of revenues) of Alstom's Products is classified under "Transport/Public Transport: BRTs, rail, etc." in the EU Taxonomy.

**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

Internal methodology, based on customers' requirements

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

Cradle-to-grave

**Functional unit used**

In tonCO2/passenger.km or tonCO2/ton.km

**Reference product/service or baseline scenario used**

Same as the one mentioned above :

- Rolling-stock and components, especially diesel rolling stock
  - Digital Integrated System (infrastructure, system, Signalling): track and power supply solutions.
  - Services (Maintenance, modernisation, energy efficiency services, spare parts);
- The improvement of our solutions under the ecodesign approach is measured with 2014 baseline rolling stock solutions.

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

Cradle-to-grave

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

160,000,000

### Explain your calculation of avoided emissions, including any assumptions

As a rough estimate, from our passenger solutions on rolling stock, the sales in 2021 will have an impact on the equivalent of 3 330 billion passenger-kilometers (calculation the whole utilization phase of a train for 30/40 years). If we take an average of 53 gCO<sub>2</sub>/passenger-kilometer for the travelling in France (data based on sectoral benchmark), and compare it to our 4.58 gCO<sub>2</sub>/passenger kilometer, then we will get around 5 million tons CO<sub>2</sub> saved per year. (or 160 million for the average whole life cycle of utilization of a train).

The Turnover for the Group amounts to €15.47 billion with an eligibility rate of 99%. Considering EU taxonomy activities, this includes 77% under “3. Manufacturing” (covering rolling stock, components and services), 22% under “6. Transport” (covering mainly infrastructure, track-side signalling and systems) and 1% non-eligible.

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

99

## 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?**

Yes, an acquisition

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

Bombardier Transportation

**Details of structural change(s), including completion dates**

Newly acquired activities start to report after a full calendar quarter of presence for environmental results. The environmental results of newly acquired sites are consolidated after a full calendar year of reporting. For the specific case of legacy bombardier Transportation sites acquired 1 February 2021, the data of January 2021 have also been integrated. Generally, data for the baseline year are recalculated to take into account the new sites and allow the performance to be measured on a constant scope. 2021/22 is established as the new year of refere

## 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?	
Row 1	No

## C5.1c

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

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	Generally, data for the baseline year are recalculated to take into account the new sites and allow the performance to be measured on a constant scope. 2021/22 is established as the new year of reference. In particular, the baseline of the targets related to scope 1, 2 and 3 had been reviewed following the integration of Bombardier Transportation activities in the perimeter.

## C5.2

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

### Scope 1

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

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

107,073

**Comment**

### Scope 2 (location-based)

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

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

144,632



**Comment**

**Scope 2 (market-based)**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

121,789

**Comment**

**Scope 3 category 1: Purchased goods and services**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

1,645,775

**Comment**

**Scope 3 category 2: Capital goods**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

47,080

**Comment**

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

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

19,131

**Comment**

**Scope 3 category 4: Upstream transportation and distribution**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

27,000

**Comment**

**Scope 3 category 5: Waste generated in operations**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

4,051

**Comment**

**Scope 3 category 6: Business travel**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

5,700

**Comment**

**Scope 3 category 7: Employee commuting**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

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

80,000

**Comment**

**Scope 3 category 8: Upstream leased assets**

---

**Base year start**

**Base year end**

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

**Comment**

**Scope 3 category 9: Downstream transportation and distribution**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

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

6,000

**Comment**

**Scope 3 category 10: Processing of sold products**

---

**Base year start**

**Base year end**

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

**Comment**

### **Scope 3 category 11: Use of sold products**

---

**Base year start**

January 1, 2021

**Base year end**

December 31, 2021

**Base year emissions (metric tons CO<sub>2</sub>e)**

31,594,598

**Comment**

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

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

### **Scope 3 category 13: Downstream leased assets**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

### **Scope 3 category 14: Franchises**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO<sub>2</sub>e)**

**Comment**

**Scope 3 category 15: Investments**

---

**Base year start**

**Base year end**

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

**Comment**

**Scope 3: Other (upstream)**

---

**Base year start**

**Base year end**

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

**Comment**

**Scope 3: Other (downstream)**

---

**Base year start**

**Base year end**

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

**Comment**

## **C5.3**

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

IEA CO2 Emissions from Fuel Combustion

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

## C6. Emissions data

### C6.1

**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO<sub>2</sub>e?**

#### Reporting year

---

**Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)**

107,073

**Start date**

January 1, 2021

**End date**

December 31, 2021

**Comment**

Scope 1 Direct CO<sub>2</sub> emissions related to the consumptions of natural gas butane, propane, coal and oil: 100,000

Scope 1 CO<sub>2</sub> emissions from company cars (using gasoline or diesel oil): 6,000

Scope 1 Other direct CO<sub>2</sub> emissions related to HFC fugitive emissions: 2,0000

#### Past year 1

---

**Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)**

53,898.186

**Start date**

January 1, 2020

**End date**

December 31, 2020

**Comment**

#### Past year 2

---

**Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)**

58,097

**Start date**

January 1, 2019

**End date**

December 31, 2019

**Comment**

## C6.2

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

**Row 1**

---

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

-Emission factors for electricity come from AIB (2020 data base) or, if not available IEA (2019 data base). We compute our scope 2 emissions on location-based figure but do not report the results publicly.

## C6.3

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?**

**Reporting year**

---

**Start date**

January 1, 2021

**End date**

December 31, 2021

**Comment**

Indirect CO<sub>2</sub> emissions related to the consumption of steam, heat network and electricity – Scope 2 market based

**Past year 1**

---

**Start date**

January 1, 2020

**End date**

December 31, 2020

**Comment**

## Past year 2

---

### Start date

January 1, 2019

### End date

December 31, 2019

### Comment

## C6.4

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

Yes

## C6.4a

**(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

---

### Source

Temporary construction sites not covered by a certification as well as activities conducted in sites of less than 200 persons on which the utilities are not managed by Alstom are not recorded

### Relevance of Scope 1 emissions from this source

Emissions are not relevant

### Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

### Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

### Explain why this source is excluded

This source is excluded due to significantly different possible configurations and partnerships in projects (such as energy supply and management under responsibility of another company). Environmental results (including greenhouse gas emissions) cover 100% of operational sites and this exclusion accounts for less than 5% of global GHG footprint based on sectorial benchmark. St Bruno in Canada site is not consolidated in 2021. Moreover, the Swedish sites, Cluj offices, Bangkok head office and Crespin have not reported their car consumptions (gasoline and diesel oil) as they were not able to collect this data.



**Estimated percentage of total Scope 1+2 emissions this excluded source represents**

5

**Explain how you estimated the percentage of emissions this excluded source represents**

Sites out of the environmental scope are managed by our clients (infrastructure projects). The emissions are therefore part of their reporting scope. We only have few vehicles, belonging to Alstom, emitting GHG on those sites representing less than 5% of total GHG emissions. This is aligned with the SBTi requirements, as we report our emissions to this organization.

## 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 CO<sub>2</sub>e)**

1,645,775

**Emissions calculation methodology**

Average data method

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

0

**Please explain**

Alstom has developed a methodology to estimate annually the company's scope 3 greenhouse gas emissions stemming from purchased good and services and the use of sold products. This approach has been evaluated and still deemed suitable. Purchase of goods and services involved in products and services manufacturing and delivery are estimated based on sales ratio and available eco-design data by type of solutions (LCAs, EPDs). The emission factors for the specific raw materials used (e.g. steel, plastic) are provided by ADEME Base Carbone (French Agency for Environment). For each group of Alstom solutions (RS, Services, Signalling...), the tool contains a predefined list of representative solutions that were created from Alstom's LCAs, EPDs and from external databases. Each representative solution provides relevant ratios and emissions factors for the GHG assessment calculations. This figure only covers purchased goods and services directly involved in production activities. The amount of CO<sub>2</sub> emissions reported is taking into account the integration of Bombardier Transportation

**Capital goods**

---

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

47,080

**Emissions calculation methodology**

Spend-based method

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

0

**Please explain**

Total expenses for capital goods (428,000,000 € in fiscal year 2021/2022) x average emission factor from Ademe (French Agency for Environment) (110 kgCO<sub>2</sub>e / k€). As a result of these calculation, emissions from this category are 47,080 tCO<sub>2</sub>e. The amount of CO<sub>2</sub> emissions reported is taking into account the integration of Bombardier Transportation

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

---

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

19,131

**Emissions calculation methodology**

Average data method

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

0

**Please explain**

Total energy consumption per energy type (natural gas, butane/propane, fuel oil, gasoline, diesel, electricity) (in MWh) x upstream energy emission factor per energy type from Ademe (French Agency for Environment) (tCO<sub>2</sub>e / MWh). The amount of CO<sub>2</sub> emissions reported is taking into account the integration of Bombardier Transportation

**Upstream transportation and distribution**

---

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

27,000

**Emissions calculation methodology**

Supplier-specific method

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

100

**Please explain**

CO2 Emissions data are collected from transport providers for transport activities organized by Alstom. Upstream transport organized by suppliers as part of their products supply are not integrated yet in this indicator. The amount of CO2 emissions reported is taking into account the integration of Bombardier Transportation.

**Waste generated in operations**

---

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

4,051

**Emissions calculation methodology**

Waste-type-specific method

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

100

**Please explain**

Sum of tons of non-valorized dangerous waste (in tonnes) x emission factor of dangerous waste incineration from Ademe (French Agency for Environment) (in tCO2e/tonne of waste) and tons of non-valorized non dangerous waste (in tonnes) x emission factor of non-dangerous incineration from Ademe (French Agency for Environment) (in tCO2e/tonne of waste). The amount of CO2 emissions reported is taking into account the integration of Bombardier Transportation

**Business travel**

---

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

5,700

**Emissions calculation methodology**

Supplier-specific method

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

100

**Please explain**

Calculated by ALSTOM global business travel agencies. The calculation only takes into account the air and train travels followed by these agencies. The methodology takes into

account the annual evolution of the weighting coefficients used in the guide “GHG DEFRA/DECC conversion factors”. The evolution is specifically linked to the evolution of aircraft energy efficiency. The amount of CO<sub>2</sub> emissions reported is taking into account the integration of Bombardier Transportation.

## Employee commuting

---

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO<sub>2</sub>e)

80,000

### Emissions calculation methodology

Average data method

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

0

### Please explain

In September 2017, a global survey of the CO<sub>2</sub> emitted during journeys between home and work was launched in 26 countries. The survey results estimated the CO<sub>2</sub> emissions at around 40,000 tons per year, which is, on average, 6 kg/day/employee. This survey was undertaken as part of the European mobility week, whereby Alstom organized its second Sustainable Mobility Day. The objectives were to develop internal awareness on sustainable mobility, to influence individual behavior and to reinforce messages on the Company’s contribution to the transition towards more sustainable transportation modes. Since the integration of Bombardier Transportation, we estimate that the CO<sub>2</sub> emissions from this source have doubled.

## Upstream leased assets

---

### Evaluation status

Not relevant, explanation provided

### Please explain

No emissions identified in this category. Indeed, upstream leased assets are already integrated in the reporting scope as we are reporting on an operational basis. This means that all emissions related to upstream leased assets are already taken into account in the scope 1 & 2 emissions.

## Downstream transportation and distribution

---

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO<sub>2</sub>e)

6,000

### Emissions calculation methodology

Supplier-specific method

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

100

**Please explain**

CO2 Emissions data are collected from transport providers for transport activities organized by Alstom. This covers delivery of trains and out-of-gauge product to the customers. Delivery of parts within Alstom sites and to customers is covered within upstream transportation indicator. The amount of CO2 emissions reported is taking into account the integration of Bombardier Transportation

**Processing of sold products**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

No activities identified in this category. Indeed, the large majority of our products are end users' products that are not processed before use.

**Use of sold products**

---

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

31,594,598

**Emissions calculation methodology**

Average product method

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

0

**Please explain**

Alstom has developed a methodology to estimate the company's scope 3 greenhouse gas emissions stemming from the use of sold products and the purchased good and services. For each contract, GHG emissions are calculated automatically from the sales at completion, the associated "representative solution", the location of the contract (to allocate the corresponding electricity emission factor). For each group of Alstom solutions (RS, Services, Signalling...), the tool contains a predefined list of representative solutions that were created from Alstom's LCAs, EPDs and Energy KPIs documents and from external databases. Each representative solution provides relevant ratios and emissions factors for the GHG assessment calculations. The total emissions induced during the product life are allocated to a specific year proportionally to the percentage of sales of the year vs. total sales at completion. The electricity emission factors used are IEA's and forecast on 30 years to take train lifespan into account. Other emission factor

used (e.g. diesel, natural gas) are from ADEME Base Carbone (French Agency for Environment). The methodological guide used has been developed by Carbone 4. The amount of CO2 emissions reported is taking into account the integration of Bombardier Transportation

### End of life treatment of sold products

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

As per Life-cycle assessment realized by Alstom in the past, this represent less than 1% of product life-cycle and is not considered as significant.

### Downstream leased assets

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

We have no downstream leased assets.

### Franchises

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

We have no franchise.

### Investments

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

We are not an investment company.

### Other (upstream)

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

We have no other upstream emissions.

### Other (downstream)

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

We have no other downstream emissions.

## C6.5a

**(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.**

### Past year 1

---

**Start date**

January 1, 2021

**End date**

December 31, 2021

**Scope 3: Purchased goods and services (metric tons CO<sub>2</sub>e)**

800,776

**Scope 3: Capital goods (metric tons CO<sub>2</sub>e)**

29,150

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)  
(metric tons CO<sub>2</sub>e)**

55,222

**Scope 3: Upstream transportation and distribution (metric tons CO<sub>2</sub>e)**

33,000

**Scope 3: Waste generated in operations (metric tons CO<sub>2</sub>e)**

2,317

**Scope 3: Business travel (metric tons CO<sub>2</sub>e)**

5,500

**Scope 3: Employee commuting (metric tons CO<sub>2</sub>e)**

0

**Scope 3: Upstream leased assets (metric tons CO<sub>2</sub>e)**

**Scope 3: Downstream transportation and distribution (metric tons CO<sub>2</sub>e)**

7,000

**Scope 3: Processing of sold products (metric tons CO<sub>2</sub>e)**

**Scope 3: Use of sold products (metric tons CO<sub>2</sub>e)**

20,810,006

**Scope 3: End of life treatment of sold products (metric tons CO<sub>2</sub>e)**

**Scope 3: Downstream leased assets (metric tons CO<sub>2</sub>e)**

**Scope 3: Franchises (metric tons CO<sub>2</sub>e)**

**Scope 3: Other (upstream) (metric tons CO<sub>2</sub>e)**

**Scope 3: Other (downstream) (metric tons CO<sub>2</sub>e)**

**Comment**

Some categories of activities are irrelevant to Alstom either because no emissions were associated to them or they represent a minor part of the company's activities or are simply not conducted. As such, no data have been provided for those categories.

**Past year 2**

---

**Start date**

January 1, 2020

**End date**

December 31, 2020

**Scope 3: Purchased goods and services (metric tons CO<sub>2</sub>e)**

855,411

**Scope 3: Capital goods (metric tons CO<sub>2</sub>e)**

30,140

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)  
(metric tons CO<sub>2</sub>e)**

13,701

**Scope 3: Upstream transportation and distribution (metric tons CO<sub>2</sub>e)**

18,000

**Scope 3: Waste generated in operations (metric tons CO<sub>2</sub>e)**

1,034

**Scope 3: Business travel (metric tons CO<sub>2</sub>e)**

26,000

**Scope 3: Employee commuting (metric tons CO<sub>2</sub>e)**

40,000

**Scope 3: Upstream leased assets (metric tons CO<sub>2</sub>e)**

**Scope 3: Downstream transportation and distribution (metric tons CO<sub>2</sub>e)**

11,000



**Scope 3: Processing of sold products (metric tons CO<sub>2</sub>e)**

**Scope 3: Use of sold products (metric tons CO<sub>2</sub>e)**

**Scope 3: End of life treatment of sold products (metric tons CO<sub>2</sub>e)**

**Scope 3: Downstream leased assets (metric tons CO<sub>2</sub>e)**

**Scope 3: Franchises (metric tons CO<sub>2</sub>e)**

**Scope 3: Other (upstream) (metric tons CO<sub>2</sub>e)**

**Scope 3: Other (downstream) (metric tons CO<sub>2</sub>e)**

**Comment**

Some categories of activities are irrelevant to Alstom either because no emissions were associated to them or they represent a minor part of the company's activities or are simply not conducted. As such, no data have been provided for those categories.

Please note that the methodology used for calculating scope 3 emissions has evolved between 2019/20 and 2020/21 so the data reported are not fully comparable.

## **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 CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

---

**Intensity figure**

0.0000145

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

228,862

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

15,741,000,000

**Scope 2 figure used**

Market-based

**% change from previous year**

13

**Direction of change**

Increased

**Reason for change**

The sum of scope 1 emissions (107,073 tCO<sub>2</sub>e) and scope 2 emissions location-based (121,789 tCO<sub>2</sub>e) is equal to 228,862 tCO<sub>2</sub>e. The unit total revenue of reporting year is € 15,741,000,000. Thus, the intensity metric is 228,862/15,741,000,000 = 0.0000145. The sum of scope 1 emissions and scope 2 location-based emissions from previous year is 99,371 tCO<sub>2</sub>e, and the unit total revenue of previous year was €7,675,000,000, thus the intensity metric was 0.0000129. tCO<sub>2</sub>e/€. And (0.0000145-0.0000129)/0.0000129= +13% which is the % change from previous year. The increase can be explained by the integration of Bombardier Transportation into the perimeter. Electricity from renewable sources accounted for 42% of electricity supply in 2021/22 vs 60% last year. The strategy of green electricity purchase must be extended to legacy Bombardier Transportation sites. The share of green electricity produced on site remains low (less than 1%). Numerous solar PV panel projects are being studied in various countries especially in France, Spain, Morocco and South Africa. These initiatives will be completed by a program built following a study performed by an external consultant, to deploy the solar PV panels on our sites. This will be launched in 2022.

## C7. Emissions breakdowns

### C7.1

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

No

### C7.2

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

Country/Region	Scope 1 emissions (metric tons CO <sub>2</sub> e)
Australia	825
Belgium	3,659

Brazil	4
Canada	7,081
China	158
France	31,967
Germany	12,950
India	333
Italy	8,823
Mexico	886
Netherlands	398
Poland	12,227
Romania	410
Spain	3,135
United Kingdom of Great Britain and Northern Ireland	12,890
United States of America	5,159
South Africa	439
Morocco	0
Kazakhstan	251
Austria	251
Czechia	3,557
Philippines	0
Sweden	0
Switzerland	584
Thailand	0

### C7.3

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

By activity

### C7.3c

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

Activity	Scope 1 emissions (metric tons CO <sub>2</sub> e)
Digital Integrated Systems (Signaling et Infra & Systems)	3,143
Headquarters	1,656
Rolling Stock & Components	89,276
Services	12,998

Shared	0
Signaling	

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

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO<sub>2</sub>e.

	Gross Scope 1 emissions, metric tons CO <sub>2</sub> e	Comment
Transport OEM activities	92,419	We have considered as emissions from Transport OEM activities the emission stemming from our manufacturing activities (Rolling Stock & Components and Digital Integrated Systems).

## C7.5

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

Country/Region	Scope 2, location-based (metric tons CO <sub>2</sub> e)	Scope 2, market-based (metric tons CO <sub>2</sub> e)
Australia	2,413	2,413
Belgium	1,150	0
Brazil	225	0
Canada	3,442	3,442
China	1,847	1,847
France	4,892	2,469
Germany	33,331	32,809
India	15,192	15,192
Italy	8,892	2,395
Mexico	2,914	2,914
Morocco	348	347.999
Netherlands	153	0
Poland	19,846	13,547
Romania	1,558	45
South Africa	14,597	14,597
Spain	2,173	122

United Kingdom of Great Britain and Northern Ireland	7,970	7,464
United States of America	7,582	5,174
Kazakhstan	6,375	6,375
Austria	549	169
Czechia	6,588	7,643
Hungary	1,470	1,774
Philippines	179	179

## C7.6

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

By activity

### C7.6c

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

Activity	Scope 2, location-based (metric tons CO <sub>2</sub> e)	Scope 2, market-based (metric tons CO <sub>2</sub> e)
DIS (Digital Integrated System)	8,560	6,354
Headquarters	1,244	870
Rolling Stock and Components (RSC)	119,292	105,557
Services	15,537	9,008
Shared	0	0

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

**(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO<sub>2</sub>e.**

	Scope 2, location-based, metric tons CO <sub>2</sub> e	Scope 2, market-based (if applicable), metric tons CO <sub>2</sub> e	Comment

Transport OEM activities	127,852	111,911	We have considered as emissions from Transport OEM activities the emission stemming from our manufacturing activities (i.e., Rolling Stock Components and Digital Integrated System).
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## C-TO7.8

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

### Activity

Rail

### Emissions intensity figure

0.0000000046

### Metric numerator (Scope 3 emissions: use of sold products) in Metric tons CO<sub>2</sub>e

15,248,436

### Metric denominator

p.km

### Metric denominator: Unit total

3,329,212,508,395

### % change from previous year

-48

### Vehicle unit sales in reporting year

1,889

### Vehicle lifetime in years

30

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

43,700,000

### Load factor

100%. As a rail equipment manufacturer we consider our responsibility is to provide vehicles that are intrinsically energy efficient and we strive to reduce their consumption per capacity of transport. Occupancy rate can vary a lot for different type of operations and customers. It is the responsibility of the operators to influence the occupancy rate.

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

Alstom has developed a methodology to estimate the company's scope 3 greenhouse gas emissions stemming from the use of sold products and the purchased goods and

services. For each contract, GHG emissions are calculated automatically from the sales at completion, the associated 'representative solution' and the location of the contract (to allocate the corresponding electricity emission factor). For each group of Alstom solutions, the tool contains a predefined list of representative solutions that were created from Alstom's LCAs, EPDs and Energy KPIs documents as well as from external databases. Each representative solution provides relevant ratios and emissions factor for the GHG assessment calculations. The total emissions induced during the product life are allocated to a specific year proportionally to the percentage of sales of the year vs total sales at completion. The electricity emission factors used are IEA's and forecast on 30 years to take train lifespan into account. Other emission factor used (e.g., diesel, natural gas) are from ADEME Base Carbone (French Agency for Environment). The methodological guide used has been developed by Carbone 4.  
 Calculation methodology :  $15248436 \text{ tCO}_2 \text{ (passenger transport)} / 3329212508395 \text{ (passengerkm/year)} * 1000000 = 4,6 \text{ gCO}_2/\text{km}$

## C7.9

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

Increased

### C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	8,000	Decreased	8	Increase in renewable energy use (on site production and certificates of origin). We estimate that the emissions on scope 1 and 2 decreased by 8,000 tons. Calculation based on the value of the year 2020 (99000) : $(8000/99000)*100$
Other emissions reduction activities				
Divestment				
Acquisitions	120,000	Increased	51	We have added the CO2 emissions from Ex Bombardier Sites. We estimate that the emissions on scope 1

				and 2 increased by 120,000 tons. Calculation based on the value of the year 2020 (99000) : $(120000/99000)*100$
Mergers				
Change in output	1,650	Increased	2	Local modifications of energy used. We estimate that the emissions on scope 1 and 2 decreased by 1,650 tons. Calculation based on the value of the year 2020 (99000) : $(1650/99000)*100$
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

### 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?**

Market-based

## C8. Energy

### C8.1

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

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

### C8.2

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

Indicate whether your organization undertook this energy-related activity in the reporting year
---



Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

## C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)		488,500	488,500
Consumption of purchased or acquired electricity		160,124	229,662.8	389,786.8
Consumption of purchased or acquired heat			116,233	116,233
Consumption of self-generated non-fuel renewable energy		3,693		3,693
Total energy consumption				998,212.8

## C8.2b

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

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes

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

## C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	3,693	3,693	3,693	3,693
Heat				
Steam				
Cooling				

## C8.2e

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

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Belgium

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

7,178.4

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Belgium

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Brazil

**Tracking instrument used**

I-REC

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

2,163.4

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Brazil

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Czechia

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

591.2

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Czechia

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Spain

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

10,545.4

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Spain

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Hydropower (capacity unknown)

**Country/area of low-carbon energy consumption**

France

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

48,562.1

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

France

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

## Comment

---

### Sourcing method

Unbundled energy attribute certificates (EACs) purchase

### Energy carrier

Electricity

### Low-carbon technology type

Low-carbon energy mix, please specify  
Solar, Windturbines, hydropower and biomass

### Country/area of low-carbon energy consumption

Germany

### Tracking instrument used

GO

### Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

23,664.6

### Country/area of origin (generation) of the low-carbon energy or energy attribute

Germany

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

## Comment

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

### Sourcing method

Unbundled energy attribute certificates (EACs) purchase

### Energy carrier

Electricity

### Low-carbon technology type

Solar

### Country/area of low-carbon energy consumption

India

**Tracking instrument used**

Indian REC

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

1,241.7

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

India

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

**Comment**

100% of our low carbon energy comes from solar panles installed in our facilities

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Renewable energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Italy

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

24,541.5

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Italy

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Solar

**Country/area of low-carbon energy consumption**

Romania

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

4,362.2

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Romania

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**



Poland

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

12,063.3

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Poland

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify  
Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Sweden

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

6,595.3

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Sweden

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify  
Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

United Kingdom of Great Britain and Northern Ireland

**Tracking instrument used**

REGO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

14,778.3

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

United Kingdom of Great Britain and Northern Ireland

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify  
Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

United States of America

**Tracking instrument used**

US-REC

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

6,296.8

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

United States of America

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Solar

**Country/area of low-carbon energy consumption**

Morocco

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

31.6

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Morocco

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

**Comment**

100% of our low carbon energy comes from solar panles installed in our facilities

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Netherlands

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

415

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Netherlands

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

---

**Sourcing method**

Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**

Electricity

**Low-carbon technology type**

Low-carbon energy mix, please specify

Solar, Windturbines, hydropower and biomass

**Country/area of low-carbon energy consumption**

Switzerland

**Tracking instrument used**

GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**

786.3

**Country/area of origin (generation) of the low-carbon energy or energy attribute**

Switzerland

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

**Comment**

There are actually 4 types of low-carbon technology used: solar, Windturbines, hydropower and biomass. The Company has signed contracts for the usage of electricity from renewable sources where economically viable.

**C8.2g**

**(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.**

---

**Country/area**

Australia

**Consumption of electricity (MWh)**

3,522.8

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

0

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

3,522.8

---

**Country/area**

Austria

**Consumption of electricity (MWh)**

2,800.9

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

2,110.3

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

4,911.2

---

**Country/area**

Belgium

**Consumption of electricity (MWh)**

7,178.4

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

0

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

7,178.4

---

**Country/area**

Brazil

**Consumption of electricity (MWh)**

2,163.4

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

0

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

2,163.4

---

**Country/area**

Canada

**Consumption of electricity (MWh)**

26,509

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

0

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

26,509

---

**Country/area**

China

**Consumption of electricity (MWh)**

2,962.6

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

0

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

2,962.6

---

**Country/area**

Czechia

**Consumption of electricity (MWh)**

14,946.6

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

0

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

14,946.6

---

**Country/area**

Spain

**Consumption of electricity (MWh)**

10,972.5

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

0

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

10,972.5

---

**Country/area**

France

**Consumption of electricity (MWh)**

83,381.2

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

2,680

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

86,061.2

---

**Country/area**

Germany

**Consumption of electricity (MWh)**

54,895.7

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

87,301.3

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

142,197

---

**Country/area**

Hungary

**Consumption of electricity (MWh)**

6,470.3

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

0

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

6,470.3

---

**Country/area**

India

**Consumption of electricity (MWh)**

22,272.1

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

0

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

22,272.1

---

**Country/area**



Italy

**Consumption of electricity (MWh)**

25,401.5

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

10,310

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

35,711.5

---

**Country/area**

Kazakhstan

**Consumption of electricity (MWh)**

3,916.4

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

4,848.4

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

8,764.8

---

**Country/area**

Mexico

**Consumption of electricity (MWh)**

7,335.7

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

0

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

7,335.7

---

**Country/area**

Morocco

**Consumption of electricity (MWh)**

531.3

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

0

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

531.3

---

**Country/area**

Netherlands

**Consumption of electricity (MWh)**

415

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

0

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

415

---

**Country/area**

Philippines

**Consumption of electricity (MWh)**

266

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

0

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

266

---

**Country/area**

Poland

**Consumption of electricity (MWh)**

28,363.2

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

2,423.9

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

30,787.1

---

**Country/area**

Romania

**Consumption of electricity (MWh)**

4,532.3

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

0

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

4,532.3

---

**Country/area**

South Africa

**Consumption of electricity (MWh)**

15,663.3

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

0

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

15,663.3

---

**Country/area**

Sweden

**Consumption of electricity (MWh)**

6,595.3

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

5,636.8

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

12,232.1

---

**Country/area**

Switzerland

**Consumption of electricity (MWh)**

2,354.1

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

922.3

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

3,276.4

---

**Country/area**

Thailand

**Consumption of electricity (MWh)**

1,804.1

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

0

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

1,804.1

---

**Country/area**

United Kingdom of Great Britain and Northern Ireland

**Consumption of electricity (MWh)**

38,398.4

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

0

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

38,398.4

---

**Country/area**

**Consumption of electricity (MWh)**

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

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

---

**Country/area**

United States of America

**Consumption of electricity (MWh)**

19,827.9

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

0

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

19,827.9

## C-T08.5

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

---

**Activity**

Rail

**Metric figure**

11.93

**Metric numerator**

MWh

**Metric denominator**

Use phase, please specify  
millions p.km

**Metric numerator: Unit total**

3,972,977,854

**Metric denominator: Unit total**

332,921,251

**% change from previous year**

4.68

**Please explain**

This intensity metrics relates the total electricity consumption of rail vehicles in MWh during the year divided by the use phase of these vehicles during the year expressed in millions passenger.km.

The metric for last year was 11.40, which gives a change of +4.68%

---

**Activity**

Rail

**Metric figure**

11.58

**Metric numerator**

MWh

**Metric denominator**

Other, please specify  
millions t.km

**Metric numerator: Unit total**

3,427,165,395

**Metric denominator: Unit total**

29,604,737

**% change from previous year**

-1.89

**Please explain**

This intensity metrics relates the total electricity consumption of locomotives vehicles in MWh during the year divided by the use phase of these vehicles during the year expressed in millions tons.km.

The metric for last year was 11.80, which gives a change of -1.89%.

## C9. Additional metrics

### C9.1

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

**Description**

Other, please specify  
Activity performance from diesel sold products

**Metric value**

0.24

**Metric numerator**

78262470224.5646

**Metric denominator (intensity metric only)**

3329212508394.59

**% change from previous year**

**Direction of change**

**Please explain**

Calculation : passenger-km from diesel/total passenger-km of global rolling stock  
 This indicator gives the amount of activity from passenger rail sold products that is allocated to a product that runs on diesel. From the estimation, this year 2.4% of passenger kilometers were run on diesel trains, the rest being electric hydrogen or hybrids. We track this indicator is followed for the first time this year.

**C-TO9.3/C-TS9.3**

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

**Activity**

Rail

**Metric**

Other, please specify  
 % of supply of non-diesel powered rolling stock

**Technology**

Other, please specify  
 Non diesel-powered rolling stock

**Metric figure**

95

**Metric unit**

Other, please specify  
 %

**Explanation**

The supply of diesel rolling-stock (locomotives or trains) represented less than 5% of Alstom’s orders over the last 3 years. 95% of Alstom’s rolling-stock supply as ordered in the last 3 years is non diesel-powered.

**Activity**

Rail

**Metric**

Other, please specify  
 % of supply of hydrogen powered rolling stock

**Technology**

Other, please specify  
Hydrogen rail solutions

**Metric figure**

0.07

**Metric unit**

Other, please specify  
%

**Explanation**

This indicator gives the amount of activity from passenger rail sold products that is allocated to a product that runs on hydrogen. From the estimation, this year, 0,07% of passenger kilometers were run on hydrogen trains. Alstom expects to increase the number of sales linked to this technology and increase the activity for this product in the coming years.

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

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	Alstom does not disclose detailed figures on R&D per type of programs. In 2021/22, global R&D expenses represented € 530 million and 3.4% of sales.

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

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

**Activity**

Rail

**Technology area**

Unable to disaggregate by technology area

**Stage of development in the reporting year****Average % of total R&D investment over the last 3 years**

81-100%



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

530,000,000

**Comment**

Description of investments

As most of the solutions are considered low carbon solutions, most of the R&D can be considered globally to relate to low carbon solutions.  
 More specifically in terms of energy efficiency, innovation is managed under the Company’s R&D and Innovation processes and is positioned as a System approach in order to ensure the performance of the entire network instead of “only” one sub-system alone. This activity includes the axe "Design, lifecycle and impacts", looking to improve intrinsic behaviour, performance and impact of products and solutions. This includes mass reduction programmes using composite materials and re-designed parts; the optimisation of aerodynamics; improved efficiency of electric or diesel traction systems (permanent magnet motors, optimised engine block control systems, new traction chains, powerful traction auxiliaries); and low consumption auxiliary comfort equipment (lighting, heating, and air conditioning). This systematic and systemic approach to energy balance analysis in the design phase applies to all rolling stock in the portfolio.

Description of % of total R&D investment

Alstom does not disclose detailed figures on R&D per type of programs. In 2021/22, global R&D expenses represented € 530 million and 3.4% of sales.

**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**

 20220609\_Alstom\_URD\_EN.pdf

 Alstom\_Audit\_report\_2021\_22\_EN.pdf

**Page/ section reference**

p.317-319

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

## C10.1b

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

---

**Scope 2 approach**

Scope 2 market-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 20220609\_Alstom\_URD\_EN.pdf

 Alstom\_Audit\_report\_2021\_22\_EN.pdf

**Page/ section reference**

p.317-319

**Relevant standard**

ISAE3000

**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: Use of sold products

**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**

 Alstom\_Audit\_report\_2021\_22\_EN.pdf

**Page/section reference**

all

**Relevant standard**

ISAE3000

**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	Progress against emissions reduction target	ISAE 3000	This data is included in our Sustainability Report and verified annually as part of the independent review of data included in the report. Attached is PWC's Statement for CSR data assurance and Alstom 2021/22 Universal Registration Document covering Sustainability Report on chapter 6.
C4. Targets and performance	Year on year change in emissions (Scope 1 and 2)	ISAE 3000	This data is included in our Sustainability Report and verified annually as part of the independent review of data included in the report. Attached is PWC's Statement for CSR data assurance and Alstom 2021/22 Universal Registration Document covering Sustainability Report on chapter 6.
C4. Targets and performance	Year on year change in emissions (Scope 3)	ISAE 3000	This data is included in our Sustainability Report and verified annually as part of the independent review of data included in the report. Attached is PWC's Statement for CSR data assurance and Alstom 2021/22 Universal Registration Document covering Sustainability Report on chapter 6.
C8. Energy	Energy consumption	ISAE 3000	This data is included in our Sustainability Report and verified annually as part of the independent review of data included in the report. Attached is PWC's Statement for CSR data assurance and Alstom 2021/22 Universal Registration Document covering Sustainability Report on chapter 6.

## C11. Carbon pricing

### C11.1

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

Yes

### C11.1a

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

France carbon tax

## C11.1c

**(C11.1c) Complete the following table for each of the tax systems you are regulated by.**

### France carbon tax

**Period start date**

January 1, 2021

**Period end date**

December 31, 2021

**% of total Scope 1 emissions covered by tax**

30

**Total cost of tax paid**

1,395,743

**Comment**

Total scope 1 emissions in France: 31 295 tCO<sub>2</sub>e (e.g. 30% of total scope 1 emissions)  
Carbon tax: 44.6 €/t in 2021 (unchanged since 2018) Total cost paid: 44.6 x 31,295 = 1,395,743

## C11.1d

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

Alstom's strategy to reduce its exposure to the France Carbon Tax is reflected in the company's CSR strategy.

Enabling the decarbonisation of mobility is one of the pillars of our CSR Strategy. In order to support the decarbonisation of mobility, CO<sub>2</sub> reduction objectives have been defined:

- Alstom is committed to reduce absolute direct GHG emissions (scope 1) and indirect GHG emissions (scope 2) from Alstom sites by 40% by 2030 from 2021/22 baseline
- Alstom is committed to reduce GHG emissions (scope 3) from the use of sold products from its portfolio of rolling stock solutions by 35% per passenger-km and ton-km by 2030 from a 2021/22 baseline

The way Alstom has implemented this strategy is through the deployment of energy saving plans, whereby the sites identify, study different possibilities, prioritize and implement energy efficiency projects (e.g. replacement of boilers with more efficient models).

Alstom has been driving the reduction of the environmental footprint of its operations over the last 10 years with significant progress made. The energy consumption of Alstom's operations in its permanent sites comes from gas (about 50%), electricity (about 40%) and the rest from district heating and other fuels.

Alstom is targeting to reach carbon neutral operations through a step by step approach. In an initial phase, Alstom is addressing two priorities:

- The continuous reduction of the carbon impact of its operations
- The progressive switch to low carbon electricity supply: Alstom has set a target to switch to 100% electricity supply from renewable sources by 2025. At the end of 2021, Alstom was supplied with 42% of green electricity, including 0.9% produced directly on site.

The Company is signing contracts for the supply of electricity from renewable energy sources where it is economically viable. The initiative engaged a few years ago on the legacy Alstom perimeter is now being extended to the new perimeter. Thus, Alstom's electricity supplies come totally from green sources in Belgium, the Netherlands, Brazil, and Sweden and partially in the United Kingdom, Germany, Spain, Italy and Poland through contracts with its electricity suppliers. In France, the share of electricity from renewable energy sources in 2021 has risen from 70 to 80%, (excluding the Belfort and Crespain sites). Finally, the Hornell and Rochester sites in the United States are supplied with green electricity through the purchase of green certificates.

Besides, initiatives to install solar PV panels to self-consume green electricity have been launched in India (power purchase agreement finalised in 2021 to install 300 KWp on the Coimbatore site), Spain (Trapaga site: 36 KWp installed) and Switzerland (Villeneuve site: 790 KWp installed), bringing to 10 the number of sites equipped with solar PV panels.

## C11.2

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

No

## C11.3

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

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

## C12. Engagement

### C12.1

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

Yes, our suppliers

Yes, our customers/clients

Yes, other partners in the value chain

### C12.1a

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

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**Type of engagement**

Information collection (understanding supplier behavior)

### **Details of engagement**

Collect climate change and carbon information at least annually from suppliers

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

50

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

45

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

60

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

Every year, Alstom selects suppliers eligible to EcoVadis Sustainability Assessments according to the following criteria:

1. The product family, which represents the activity of the supplier, with a specific focus on the level of energy consumption, or pollution-related aspects.
2. The supplier's country, taking into account, among others, the level of ecological awareness in the country.
3. The volume of purchases: for instance, the main focus is put on strategic suppliers with orders in the previous fiscal year above 2M€; as well as on suppliers with orders in the previous fiscal year between 100k€ and 2M€ that have a high level of energy consumption and are in a country where the level of ecological awareness and other sustainability-related aspects could be considered at risk.

Identified suppliers are subject to a qualitative assessment through the EcoVadis online platform that collects specific data on their climate change reporting and actions, such as:

- reporting on energy consumption - use of renewable energies
- reporting on Scope 1&2 GHG emissions - reporting on Scope 3 GHG emissions
- actions and measures on energy consumption and GHG emissions - CDP disclosure
- climate targets approved by the Sciences Bases Targets initiative (SBTi).

In FY21/22, the Sustainable Procurement Department has worked on the development of a supplier carbon portal that will allow to complete the data collected through the EcoVadis platform. Indeed, this aims at collecting quantitative primary data from selected suppliers (representing around 80% of the global spend) to calculate and monitor the CO2 emissions of purchased goods and services, and ensure the transition to low-carbon purchases.

Alstom plans to deploy this tool over the year 2022/23. (See Alstom's URD FY21/22, p. 305). In this framework, the focus has also been put on Buyers to help them build knowledge and capacity related to CO2 emissions. The Sustainable Procurement Department has put in place dedicated trainings for Buyers to "CO2 emissions in the Supply Chain" and "Circular Procurement". More than 500 Buyers have been trained worldwide.

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

- 1) Company-specific description of the impact of climate-related supplier engagement according to the measure of success chosen :

The EcoVadis online assessment provides the suppliers with a scorecard that highlights the strengths and the areas of improvement on climate change aspects. In this sense, it allows suppliers to measure the performance of their climate change strategies and guides them in the implementation of specific actions with the aim to improve their results. Therefore, this represents a first step to raise awareness among suppliers and encourage them to improve their climate change policies and strategies in order to reduce CO2 emissions.

2) Description of measures of success:

Based on this assessment, Alstom requests suppliers, which have a low performance to implement corrective actions. 909 EcoVadis assessments were carried out for 2021/22. The average score of suppliers assessed by Alstom improved by 4 points compared to the previous fiscal year. (See Alstom's URD FY21/22, p. 305).

### Comment

In addition, Alstom engages with suppliers on climate change through other means. Indeed, since 2015 Alstom is a founding member of "Railponsible", which is an industry initiative focused on sustainable procurement, with the aim to continuously improve sustainability practices throughout the railway industry supply chain through: a common approach, field collaboration and the sharing of best practices, tools, and processes. For instance, members of Railponsible have agreed to use the EcoVadis platform for suppliers' sustainability assessments. Moreover, in 2018, Railponsible has adopted a Position Paper on Climate, where members commit to support the Paris Agreement on Climate Change. Climate change related issues are analysed regularly in the dedicated Climate Change Working Group. This was communicated in the railway sector to raise awareness and encourage suppliers to commit to climate change mitigation and take action in this sense.

In FY21/22, Alstom has led the Climate Change Working Group of Railponsible.

On 31 March 2022, 2,579 suppliers, representing all rail industry professions, have been evaluated on this common platform EcoVadis as part of the "Railponsible" initiative.

### Type of engagement

Innovation & collaboration (changing markets)

### Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

### % of suppliers by number

0

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

14.3

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

### Rationale for the coverage of your engagement



Three types of programs related to the promotion of innovation and which upholds the global Alstom's net zero strategy through the value chain can be mentioned.

To commit to Alstom technical requirements, suppliers are increasingly challenged to propose green innovative solutions in order to improve the environmental performance of Alstom solutions.

1) Alstom has a premium partnership programme called "Alliance" with its strategic suppliers who account for 14.3% of the procurement spend. It aims to develop a collaborative approach with them in 3 main areas: business development, industrial excellence, and products & innovation. The governance of the programme evaluates annually the mutual interest, achievements and common benefits, as well as every quarter the possible entry of new companies. More information on Alliance can be found on Alstom's website (<https://www.alstom.com/suppliers/partnerships>). Alliance Suppliers are asked to be robust and innovative in engineering and design capability, as well as to invest in research and development in alignment with Alstom's own product and development strategies.

2) The Low Impact Materials (LIM) catalog, built and maintained by the Ecodesign team, allows to identify and promote the 'best in class' products in order to improve the environmental performance of Alstom solutions, to reduce environmental footprint and to protect human health. Moreover, the usage of LIM allows to meet customer requests, is a competitive advantage and a differentiating factor in tender phase.

LIM catalog consists of couples of 'product/supplier' already qualified by Alstom, that are compliant with the 2 following requirements: Zero Substance of Very High Concern (SVHC) is detected

and the product is recyclable. Suppliers are increasingly challenged by Alstom to propose Low Impact Materials in their supplies, in addition to commit to Alstom's technical requirements.

3) A circular economy innovation race was launched in June 2022 by the Open Innovation team, as part of Alstom's carbon footprint reduction initiatives opened to all Alstom employees,

The metric : "% of suppliers by number" (equals to 0.001) and "% total procurement spend (direct and indirect" are actually underestimated since they only represents the suppliers engaged in the "Alliance" program.

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

1) Alliance program :

As of end of March 2022, 24 suppliers have signed the Alliance charter.

In FY21/22, several workshops have taken place with strategic suppliers who are part of the Alliance Programme.

2) Ecodesign collaboration : the procurement team uses a catalog of "Low Impact Materials" built by the Ecodesign team, which comprises sustainable materials such as new seats fabrics made of 81% renewable materials. Besides, the Sustainable Procurement Department, together with the EcoDesign Department, annually runs campaigns to encourage innovation to reduce climate impacts on products and services

3) Open Innovation race which took place in June 2022:  
Around 900 ideas have been collected and will be analyzed internally end 2022 to select only the best ones for the incubation phase. As a consequence, some suppliers and start-ups will be consulted to support these new innovative projects.

### Comment

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### Type of engagement

#### Details of engagement

##### % of suppliers by number

0

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

45

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

60

#### Rationale for the coverage of your engagement

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

### Comment

## C12.1b

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

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### Type of engagement & Details of engagement

Education/information sharing

Share information about your products and relevant certification schemes (i.e. Energy STAR)

##### % of customers by number

1

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

95.6

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

Measure put in place: We provide energy simulations of our products/solutions as per customers' requests. In addition, we publish Environmental Product Declaration on customer demand. An EPD® (Environmental Product Declaration) is an independently verified and registered document that communicates transparent and comparable information about the life-cycle environmental impact of products. rationale for coverage: This information offer to all customers and other stakeholders an exhaustive overview of the environmental impacts throughout the product life-cycle. , Alstom has been publishing multiple Environmental Product Declarations that are also available on Alstom's website (<https://www.alstom.com/company/commitments/sustainable-mobility>). With a complete portfolio of renovation and modernisation solutions, Alstom offers customers the ability to extend the life-time of their systems whilst allowing for an upgrade of comfort and services. Alstom also delivers end of life manuals geared to optimised and safe recycling. The dismantling manual for X'trapolis suburban trains specifies how the 240 tons of train should be dismantled in order to achieve 93% of recyclability and 99% of recoverability. Moreover, the Sydney Metro has a recyclability rate of 95% while the recoverability rate is of 98.5%;

Apart from engaging with our customers through information sharing as abovementioned, we engage with them through our materiality assessment process (updated in 2021), which is based on on-line survey and internal and external interviews conducted by a consultant with internal and external stakeholders (including customers, shareholders, industry associations, suppliers, NGOs, partners, public authorities...). This assessment allowed the identification of the priority issues to be considered, the reinforcement of the main axes of Alstom in Motion Strategy 2025 and the adjustment of the company action plans. It is also feeding the CSR risk mapping updated every year

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

1) Company-specific description of the impact :

Our strategy to prioritize engagement with customers is to focus on customers that are more mature, who have announced GHG or energy reduction ambitions or operate in countries where electricity is a scarce resource. A number of initiatives are being implemented with customers in France, Brazil and Ireland. They include collaboration over energy measurements, energy storage and heat pump tests, new energy management systems, auxiliary control systems, etc.

2) Description of measures of success

Our measure of success of customer engagement is through the level of connection established with the customer, the delivery of project versus initial objectives, the potential to transfer to commercial projects and the overall satisfaction of customer. We also consider the number of interviews conducted with customers. The principal measure of a customer's satisfaction is the Net Promoter Score (NPS), i.e. their propensity to recommend Alstom as a supplier. The Group's set objective is to achieve an annual average NPS of eight out of ten.

Trainings on processes and tools were delivered to the Quality and Sales Teams new-

comers from Bombardier Transportation.

More than one hundred projects are subject to NPS measurement every year. In FY 2021/22, more than 270 projects were surveyed, with an average NPS of 8.1

### **Type of engagement & Details of engagement**

Collaboration & innovation

Other, please specify

Joint innovation program with direct impact on climate

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

0.4

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

0.03

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

Alstom has partnered with the French national railway company (SNCF) on a joint R&D program about innovative high-speed train. The Avelia Horizon/TGV du futur project has two main objectives: 1/ Fulfilling Alstom's obligation towards SNCF in the Innovation Partnership between the two in developing, industrializing and delivering a new generation highspeed trains with specific innovation specifications from SNCF as the customers.

2/ Delivering Alstom's obligations in the SPEEDINNOV joint venture with ADEME (created in 2015) with an objective to finance the development of a new generation of platform for very high-speed trains that have lower train acquisition and operating costs and improved performance), as well as towards Alstom Mainline Platform Team as per the Avelia Double-deck "Platform Range Specification". This new trains sets "AVELIA Doubledeck" or "AVELIA Horizon", is to be placed within Alstom's Avelia product family, and SNCF is the first customer, having placed a firm order of 100 Avelia Horizon very high speed trains in 2018. Thanks to its aerodynamic design and a more efficient traction drive, the next-generation of very high-speed train will consume 20% less energy than existing trains.

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

1) Description of measures of success

Our measure of success of this engagement is the number of Avelia Horizon trains that are being sold to the French national railway company and the number of Avelia Horizon trains actually on operation. The achievement of expected energy performance is another measure of success.

2) Alstom will monitor the sales of Avelia trains (to be in commercial service in 2024).

The environmental performance, including energy efficiency, of the trains is part of the project reviews and monitored on a regular basis.

## C12.1d

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

Alstom also collaborates with other organizations in order to develop and provide innovative transport solutions that meet our customer's needs and requirements. Collaborations with other business partners enables us to develop synergies and provide more integrated solutions that address more holistic smart mobility solutions.

Having R&D collaborations enables Alstom to strengthen its innovation capacity to develop more efficient products/solutions and be more attractive to potential customers and low carbon investors. An example could be the development of the Avelia range that represent the culmination of 40 years of expertise and more than 1,100 trains in service around the world, as it operates on the French, German, Swiss, Spanish and Luxembourg rail networks, as well as in Morocco. the Avelia Horizon addresses ambitious goals in terms of competitiveness of the rail sector and profitability: maintenance costs will be more than 30% lower and thanks to its aerodynamic design and a more efficient traction drive, Avelia Horizon™ will consume 20% less energy compared to the previous generation and achieve the lowest total cost of ownership per seat on the market for a train of its type through enhanced traction and aerodynamics, light weight and optimized capacity.

Alstom has a premium partnership programme called "Alliance" with its strategic suppliers. It aims to develop a collaborative approach with them in three main areas: business development, industrial excellence, and products & innovation. To commit to Alstom technical requirements, suppliers are increasingly challenged to propose green innovative solutions in order to improve the environmental performance of Alstom solutions. As an exemple, a flooring supplier has distinguished itself thanks to its certified carbon neutral products and its remarkable commitment to the circular economy. In this frame, it received the sustainability award during the "Supplier Day" organized on 10 March 2022.

Alstom is also a founding member of the "Railponsible", a collaborative sector initiative on Sustainable Procurement that gathers 15 members and aims to drive sustainability in the railway industry supply chain through a field collaboration, and the sharing of best tools, practices and processes (through trainings for example). Thereby, the suppliers are assessed through the online Ecovadis platform and their final score is available for all members of the initiatives, sharing which helps to improve the transparency of the value chain. In January 2017, "Railponsible" joined the Sustainable Public Procurement Programme of the United Nations Environment Programme (UNEP) and its network of private and public players whose actions are part of the global movement dedicated to achieving the Sustainable Development Objectives set by the United Nations. The 2025 strategy of the "Railponsible" Committee is structured around 3 main objectives:

- Climate Action (CO2 efficiency of products/services; Low carbon procurement; Circular economy);
- Responsible procurement (Skills development; Business process and transparency; Supplier development);
- Social Responsibility (Human rights).

## C12.2

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

Yes, suppliers have to meet climate-related requirements, but they are not 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**

Procurement teams require their suppliers to comply with Alstom Sustainable Development values and principles detailed in the “Ethics & Sustainable Development Charter for Alstom’s Suppliers and Contractors” (ESD charter). This is a pre-requisite to enter into Alstom’s panel. Compliance with this Charter is also part of Alstom’s general procurement terms and conditions. By signing this Charter, the suppliers are committed to respecting applicable laws and regulations, as well as international conventions related, among others, to environment requirements of Alstom and implement environmental friendly initiatives.

As precised by the ESD charter: "Alstom’s Suppliers and Contractors shall promote the development of environment friendly technologies (e.g. controlling pollutant, CO2 emissions, etc.) as well as energy saving and recycling solutions, and implement logistics strategies that minimise environmental impacts (notably with respect to transshipment and transportation), [...], shall seek, develop and propose low environmental footprint solutions"

Screenings, online evaluations and on-site CSR audits are conducted and covered 62% of the total purchase volume in 2021/22.

#### **% 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**

96

#### **Mechanisms for monitoring compliance with this climate-related requirement**

- On-site third-party verification
- Grievance mechanism/Whistleblowing hotline
- Supplier scorecard or rating

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

Other, please specify

As soon as a non-compliance is detected, the supplier is asked to implement a corrective action plan. Depending on the criticality level, it can be decided either to launch additional assessment, to put the supplier on hold or to stop the business.

**Climate-related requirement**

Product Carbon Footprint (PCF) reductions

**Description of this climate related requirement**

Procurement teams require their suppliers to comply with Alstom Sustainable Development values and principles detailed in the “Ethics & Sustainable Development Charter for Alstom’s Suppliers and Contractors” (ESD charter). This is a pre-requisite to enter into Alstom’s panel.

As precised by the ESD charter: "Alstom’s Suppliers and Contractors shall promote the development of environment friendly technologies (e.g. controlling pollutant, CO2 emissions, etc.) [...], shall seek, develop and propose low environmental footprint solutions"

Suppliers can benefit from Alstom experts’ support (Ecodesign, Sustainable Procurement...) through workshops and trainings.

Within the frame of the sustainable procurement training programme, thematic webinars have been organized by Sustainable Procurement, such as EcoVadis (general presentation and improvement actions sessions), induction to Circular Economy, carbon footprint towards both Procurement Community and Suppliers. During the fiscal year 2021/22, more than 100 suppliers have been trained on these CSR thematic webinars. Besides, in FY21/22, Alstom has led the Climate Change Working Group of Railsponsible (sector initiative to drive sustainability in the railway industry supply chain). One of the 3 main objectives of the 2025 strategy of the “Railsponsible” Committee is indeed Climate Action (CO2 efficiency of products/services; Low carbon procurement; Circular economy).

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

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

**Mechanisms for monitoring compliance with this climate-related requirement**

Supplier scorecard or rating

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

Other, please specify

Depending on level of the non-compliance detected during on-site CSR audits, it can be decided either to launch a second source, to put the supplier on hold or sometimes to stop the business, depending on the situations.

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### **Climate-related requirement**

Waste reduction and material circularity

### **Description of this climate related requirement**

Procurement teams require their suppliers to comply with Alstom Sustainable Development values and principles detailed in the "Ethics & Sustainable Development Charter for Alstom's Suppliers and Contractors" (ESD charter). This is a pre-requisite to enter into Alstom's panel.

As precised by the ESD charter: "Alstom's Suppliers and Contractors shall promote the development of environment friendly technologies (e.g. controlling pollutant, CO2 emissions, etc.) as well as energy saving and recycling solutions, shall seek, develop and propose low environmental footprint solutions"

Suppliers can benefit from Alstom experts' support (Ecodesign, Sustainable Procurement...) through workshops and trainings.

Within the frame of the sustainable procurement training programme, thematic webinars have been organized by Sustainable Procurement, such as EcoVadis (general presentation and improvement actions sessions), induction to Circular Economy, carbon footprint towards both Procurement Community and Suppliers. During the fiscal year 2021/22, more than 100 suppliers have been trained on these CSR thematic webinars. Besides, in FY21/22, Alstom has led the Climate Change Working Group of Railsponsible (sector initiative to drive sustainability in the railway industry supply chain). One of the 3 main objectives of the 2025 strategy of the "Railsponsible" Committee is indeed Climate Action (CO2 efficiency of products/services; Low carbon procurement; Circular economy).

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

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

### **Mechanisms for monitoring compliance with this climate-related requirement**

On-site third-party verification

Supplier scorecard or rating

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

Retain and engage

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### **Climate-related requirement**

Purchasing renewable energy

### **Description of this climate related requirement**



Procurement teams require their suppliers to comply with Alstom Sustainable Development values and principles detailed in the “Ethics & Sustainable Development Charter for Alstom’s Suppliers and Contractors” (ESD charter). This is a pre-requisite to enter into Alstom’s panel.

As precised by the ESD charter: "Alstom’s Suppliers and Contractors shall promote the development of environment friendly technologies (e.g. controlling pollutant, CO2 emissions, etc.) as well as energy saving, shall seek, develop and propose low environmental footprint solutions"

Suppliers can benefit from Alstom experts’ support (Ecodesign, Sustainable Procurement...) through workshops and trainings.

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

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

**Mechanisms for monitoring compliance with this climate-related requirement**

Supplier scorecard or rating

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

Retain and engage

## 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

**Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate**

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly 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)**

 Policy influence Transparency Document July 2022.pdf

**Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy**

Alstom communicates about its climate-related engagement activities in its URD, chapter 6, in the section "Joining the public debate and common initiatives" p.265 and the section "Participation in organisations and high-level initiatives" p.333-334. Alstom acknowledges its responsibility to decarbonise both its operations and its product and service offerings and strongly believes in its role to support the transition towards a low carbon future.

Alstom fully supports the deployment of the United Nations Paris Agreement on Climate Change (2015) and the strategy of the Global Climate Action Agenda on Transport. Therefore, the Company closely follows the United Nations Framework Convention on Climate Change (UNFCCC) negotiation process. Alstom has also participated in the UNFCCC's Conferences of the Parties (COPs) since 2015 in Paris (France) with the objective to be a key contributor in the fight against climate change and demonstrate that Alstom is a key actor in this market, continuously promoting green mobility and rail.

## 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?**

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

Carbon tax

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

Alstom supports policies to internalize environmental costs, particularly with regards to a consistent CO2 pricing. To this end, Alstom has engaged with trade associations and directly with policy makers to support the Commission's initiative on the introduction of a Carbon Border Adjustment Mechanism (CBAM). This initiative, as part of the Fit-for-55 package, was also accompanied by a number of complementary texts aiming at establishing a coherent regulatory framework to ensure proper taxation across transport modes: ETS, Eurovignette, Energy Taxation Directive.

**Policy, law, or regulation geographic coverage**

Regional

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

EU27

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

Support with minor exceptions

**Description of engagement with policy makers**

As a key player in sustainable mobility, Alstom supports the fit for 55 package which will contribute to the decarbonisation of transport in the EU and to a better carbon price

signal in the market. Alstom welcomes the proposal to introduce a Carbon Border Adjustment Mechanism (CBAM) to capture carbon leakage and restore a level playing field for European producers in the covered sectors. In particular, Alstom supports the coverage of both direct and indirect emissions within the instrument.

Regarding CBAM, Alstom participated in the Commission's public consultation process by responding directly to the Commission's questionnaire and also by contributing to the responses of both sectoral (UNIFE) and horizontal associations (MEDEF).

In addition, Alstom welcomes the revision of the Energy Taxation Directive to be in line with the EU climate & energy objectives set by the EU Green Deal and the Climate Law. Taking into account the 'polluter pays' principle and the need to internalise environmental costs, Alstom supported the rewriting of the Energy Taxation Directive to adequately promote the reduction of greenhouse gas (GHG) emissions, energy efficiency and the uptake of electricity and alternative fuels such as hydrogen.

Alstom has engaged with public authorities by preparing analyses and position papers and by presenting its views at meetings with relevant stakeholders.

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

With regards to the selection of sectors in the CBAM, Alstom is in favour of the instrument covering both finished and semi-finished products as to avoid negative impacts on downstream industries. A CBAM covering only primary inputs could lead to import substitution between primary products and semi-finished / finished products and a loss of competitiveness for EU downstream industries.

On the contrary, the European Commission, the Parliament and the Council foresee a CBAM coverage only on primary products with a progressive extension to downstream products after a defined transition period.

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

Yes, we have evaluated, and it is aligned

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

International trade agreement

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

Alstom supports the revision of the EU trade policy and the integration of the environmental dimension in EU Free Trade Agreements (FTAs), notably through the provisions of the Trade Sustainable Development (TSD) chapter. Alstom also promotes the consistent application of high international standards for transparency and ethics & compliance.

**Policy, law, or regulation geographic coverage**

Global

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

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

Support with no exceptions

### **Description of engagement with policy makers**

Alstom has contributed to the Commission's consultations on the EU trade policy review and on how to better take into account environmental and social aspects when concluding FTAs with third countries. In addition, Alstom has actively participated in providing contributions to the positioning of Trade Associations such as MEDEF and UNIFE. Finally, Alstom has also engaged directly with policy makers on the revision of the EU Trade Policy to expose and present its vision.

Proposal made by Alstom are the following:

- Commitments from third countries on climate policy should be duly enforced by a dispute resolution mechanism. For instance, FTAs should take into account the commitments of the Parties under the Paris Agreement in the chapters on "sustainable development".
- The EU could decide to hold trade discussions only with third countries being signatories of the Paris Agreement.
- The EU should promote the European regulatory norms and standards that will drive the transition against climate change.
- It will also be relevant to empower the Trade Enforcement Officer to ensure that Environmental provisions and Trade Sustainable Development Chapters in EU FTAs are properly enforced.

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

### **Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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

Mandatory climate-related reporting

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

Alstom supported legislators and policy makers on the European Union directive on disclosure of non-financial and diversity information by certain large companies and groups. For instance, this topic covers the adoption of the CSRD and the definition of ESG standards.

### **Policy, law, or regulation geographic coverage**

Regional

### **Country/region the policy, law, or regulation applies to**

EU27

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

Support with no exceptions

**Description of engagement with policy makers**

On mandatory climate reporting, Alstom has followed the legislative process on the adoption of the Corporate Sustainability Reporting Directive (CSRD), which defines the rules for non-financial reporting, particularly on social and environmental aspects. Alstom also monitors the definition of ESG standards and participates in various workshops organised by Trade associations on this subject. Alstom is in favour of a high level of sustainability standards to reflect the leadership of European companies on ESG aspects

Alstom also monitors the definition of ESG standards and participates in various workshops organised by Trade associations and various organisations on this subject. Alstom is in favour of a high level of sustainability standards to reflect the leadership of European companies on ESG aspects.

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

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

Yes, we have evaluated, and it is aligned

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

Subsidies for renewable energy projects

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

Alstom engaged with legislators and policy makers on the EU funding programmes in favour of energy efficient mobility such as the Connecting Europe Facility (CEF) to support deployment of Alternative Fuels along the Trans-European Transport network. Alstom is also directly involved on Hydrogen-related funding programmes.

**Policy, law, or regulation geographic coverage**

Regional

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

EU27

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

Support with no exceptions

**Description of engagement with policy makers**

Alstom monitors transport funding opportunities and related legislation in preparation and drafts position papers reflecting its vision of ways to develop sustainable mobility and decarbonize transport in Europe. Positions are shared on several occasions with EU representatives through meetings and presentations. They are also discussed with

trade associations in which Alstom is a member. The Company also continues to support sectorial initiatives such as the Low Carbon Rail Transport Challenge presented by the International Railway Union (UIC) which targets, inter alia, to reduce average CO2 emissions from train operations by 50% by 2030 and by 75% by 2050, compared to 1990 as a baseline year. To date, specific CO2 emissions from passenger rail traffic are showing a decrease of about 40% compared to 1990 levels.

In 2020, Alstom joined the newly launched European Clean Hydrogen Alliance, which brings together under the umbrella of the European Commission companies, national and local public authorities and members of the civil society aiming at an ambitious deployment of hydrogen technologies by 2030. Alstom is one of the three co-chairs of its Mobility Roundtable.

In addition, Alstom supports the adoption of balanced regulations and standard-setting to support a broad portfolio of sustainable, low carbon, high-efficiency technologies and their effective application as well as appropriate funding. In this context, Alstom has conducted advocacy actions in order to promote the eligibility of Hydrogen rail refuelling stations under the Connecting Europe Facility (CEF). Alstom has engaged directly with legislators and policy makers alongside its industry association UNIFE and representatives of Hydrogen valleys to support the possibility of funding hydrogen rail infrastructure projects.

More generally, Alstom promotes the eligibility of rail transport in all EU funding opportunities offered by the Commission: EU Structural and Investments funds, the recovery plans and State aid schemes

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

### **Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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

Adaptation and/or resilience to climate change

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

Alstom has engaged on sustainable finance, particularly in the definition and implementation of the European Taxonomy. The Taxonomy framework sets out uniform criteria for determining whether an economic activity is environmentally sustainable. It further sets out a process involving a platform for Sustainable Finance to establish a unified EU classification system (EU taxonomy) based on a set of specific technical screening criteria. The company considers that Taxonomy will play an important role for driving investments towards transport decarbonisation.

### **Policy, law, or regulation geographic coverage**

Regional

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

EU27

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

Support with minor exceptions

**Description of engagement with policy makers**

Alstom's main policy priorities are access to sustainable transport and industrial development of our solutions. Access to transport is an essential factor of social progress and economic development. Alstom's mission is to support the transition to inclusive, environmentally friendly, safe and efficient transport. Our sustainability approach is driven by strong convictions:

- To be below the 2°C target, curbing global emissions from transport
- Efficient and zero emission mobility solutions shall be the backbone of sustainable transport systems
- The benefits of rail in terms of energy efficiency, local air pollution, safety and urban space optimization, make it a credible alternative to road
- the promotion of sustainable transport and zero carbon emission strategies, based on shared, electric mobility and hydrogen, rather than on individual transport and the use of fossil fuels,

For this reason, Alstom has participated in working groups of the European institutions to set up a European Taxonomy in order to identify sustainable activities. Alstom provided inputs to the Technical Expert Group (TEG) for the preparation of the EU Taxonomy for Sustainable Activities and contributed to the workshop related to Transport. Alstom has also participated directly and indirectly to exchange with policy makers and institutions on the definition of the criteria and on the methodology proposed to conduct the taxonomy reporting. To this end, Alstom has participated in the drafting of position papers within UNIFE and in coordination with other rail players such as operators (Community of European Railway - CER) and infrastructure managers (European Rail Infrastructure Managers - EIM). Alstom has also had the opportunity to present its positions during meetings organized with representatives from the Member States. Finally, Alstom has performed an eligibility exercise of its activities for the Fiscal year 2021/22: The high eligibility of the KPI's (99% for revenue, 99% for OPEX and 99% for CAPEX) for the FY2021/22 reflects the importance of the Group activities for sustainable mobility

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

Alstom has asked the legislator for clarification on the implementation of the Taxonomy eligibility rules.

Alstom has ensured that sustainable urban mobility (urban signalling) is eligible in the same way as regional mainline rail transport. In addition, Alstom advocated for certain criteria to be consistent with existing sectoral regulations

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

Yes, we have evaluated, and it is aligned

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

Other, please specify

Modal Shift / Transport decarbonisation

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

Alstom strongly supports the promotion of sustainable and low-carbon transport strategies based on public transport and alternative fuels rather than fossil fuelled and individual transport. Alstom contributes to the public debate around sustainable mobility and rail transport, engaging with governments and international organisations in the development of policies. Alstom's contribution to the policy debate focus, among others, on the need for continued investment in sustainable technologies in the public and private sectors and on the importance of long-term, transparent and stable policy frameworks to support investments in sustainable development. At EU level, Alstom supported the adoption of the Smart and Sustainable Mobility Strategy and Alstom promoted the inclusion of rail in the revision of the Alternative Fuels Infrastructure Directive (AFIR).

**Policy, law, or regulation geographic coverage**

Regional

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

EU27

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

Support with no exceptions

**Description of engagement with policy makers**

Alstom is a member of the Union of the European Railway Industries (UNIFE) which represents the sector at the European level. UNIFE promotes the role of rail in reaching the EU climate ambition and its contribution to the EU Smart & Sustainable Mobility Strategy. Alstom Chairman and CEO, Henri Poupart-Lafarge, is Chair of the UNIFE Presiding Board since June 2020 for a three-year mandate. In particular, Alstom has been active within UNIFE to define strategy and carried out activities in the field of sustainable mobility, climate change, energy efficiency, urban transportation and green-deal related policies with the drafting of position, the organisations of events/webinars and the presentation of Alstom's positions in meetings with relevant legislators and stakeholders.

In addition, Alstom is a member of several expert groups of the European Commission such as the Competitiveness of the European Rail Supply Industry and the Multimodal Passenger Mobility Forum. Therefore, Alstom has the possibility of contributing directly to the work of the Commission on these subjects.



Since 2014, the Group has been a member of the Sustainable Low Carbon Transport Partnership (SLoCaT), which promotes the integration of sustainable transport in global policies on sustainable development and Climate Change. Since 2017, Alstom has also been active as a founder member of the Transport Decarbonisation Alliance (TDA) which gathers countries, cities, regions and companies into an ecosystem of frontrunners to deploy roadmaps for the decarbonisation of transport. Alstom fully supports the deployment of the United Nations Paris Agreement on Climate Change (2015) and the strategy of the Global Climate Action Agenda on Transport. Therefore, the Company follows closely the United Nations Framework Convention on Climate Change (UNFCCC) negotiation process. Alstom has also participated in the UNFCCC's Conferences of the Parties (COPs) since 2015. For COP 26 in Glasgow, Alstom, in partnership with UIC and UITP, promoted the environmental advantages of rail and how its transformation can further develop the green mobility of tomorrow. Speakers from the Company also presented the topics of green mobility to different panels.

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

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

Yes, we have evaluated, and it is aligned

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

Adaptation and/or resilience to climate change

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

Alstom welcomes public support in the local regulations and collaboration to accelerate R&D in the sector and the piloting and demonstration of sustainable technologies and services. The company follows the funding opportunities coming from public streams regarding the sustainable low carbon mobility solutions.

**Policy, law, or regulation geographic coverage**

Regional

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

EU27

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

Support with no exceptions

**Description of engagement with policy makers**

Alstom is a founding member of "Europe's Rail", the successor of "Shift2Rail", the European Union joint undertaking for railway research. "Europe's Rail" aims to respond to the evolving transport needs of the European Union, through research and

innovation, in order to develop advanced and innovative technologies. By bringing together 25 European rail leaders, Europe's Rail Joint Undertaking boosts the development of rail transport and deliver new solutions that will make rail more attractive, more reliable, more energy efficient, more performing and more cost efficient for both passenger and freight trains.

Alstom monitors legislations in preparation in the field of transport at European level and prepares position papers reflecting its vision of ways to develop sustainable mobility and decarbonise transport in Europe. Positions are shared on several occasions with EU representatives through meetings and presentations. They are also discussed with trade associations of which Alstom is a member.

Alstom's main policy priorities are access to sustainable transport and industrial development of our solutions.

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

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

Yes, we have evaluated, and it is aligned

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

Other, please specify

Most economically advantageous tender (MEAT) criteria/Procurement

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

Alstom promotes the evaluation of requests for proposals for transport systems based on the most economically advantageous tender (MEAT) criteria, taking into account the whole life-cycle of these investments. This enables for example to take into consideration the energy efficiency of the proposed solutions, their maintainability and their recyclability.

**Policy, law, or regulation geographic coverage**

Regional

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

EU27

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

Support with no exceptions

**Description of engagement with policy makers**

Alstom supports the implementation by the EU public authorities of the MEAT principle (Most Economically Advantageous Tender) taking into account environmental (and social criteria) in public tenders and not only price. As per the EU Public Procurement Directives, we encourage public entities to make full use of the potential of the MEAT

criteria when publishing public tenders and look at the life-cycle cost of the product. Alstom supports the UNIFE / CER / EIM initiative to establish a list of potential criteria that contracting authorities could take into consideration in tendering procedures and contract awarding of railway related projects such as:

- Environmental performance factors,
- Sustainability evaluation,

Alstom also participated in November 2021 to present and promote the use of MEAT criteria towards national contracting authorities (practitioners representing European railway undertakings, infrastructure managers and suppliers).

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

#### **Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

## **C12.3b**

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

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#### **Trade association**

Other, please specify

"Sustainable Low Carbon Transport Partnership" (SLoCaT)

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

Consistent

#### **Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position

#### **State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom is a member of the "Sustainable Low Carbon Transport Partnership" (SLoCaT) initiative that brings together international players committed to sustainable mobility. SLoCaT is the Partnership on Sustainable, Low Carbon Transport (SLoCaT) and promotes the integration of sustainable transport in global policies on sustainable development and climate change. SLoCaT consists of a multi-stakeholder partnership of over 90 organisations, which is supported by the SLoCaT Foundation.

Alstom is an active member of SLoCaT and participates in many of its events including the Transport Day at each COP.

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

2,500

**Describe the aim of your organization's funding**

Alstom uses SLoCaT as a lever for accessing key decision-makers at country level to ensure that the rail option is fully considered when transport plans are being prepared. Alstom supports this as a member and through sponsorship of the PPMC (Paris Process for Mobility and Climate) which was created to raise the visibility of the transport sector at COP 21 in Paris and then to subsequent COPs.

**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

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**Trade association**

Other, please specify  
UNIFE

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

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom is a member of the Union of the European Railway Industries (UNIFE) which represents the sector at the European level. UNIFE supports in particular the creation of a single European rail area through the achievement of rail interoperability. It also promotes the role of rail in reaching the EU climate ambition and its contribution to the EU Smart & Sustainable Mobility Strategy. Alstom Chairman and CEO, Henri Poupart-Lafarge, is Chair of the UNIFE Presiding Board since June 2020 for a three-year mandate.

Alstom is a supportive member of UNIFE and supports the association's position on climate change and carries it forward in discussions with Governments and key transport stakeholders. As a member of the UNIFE "Chemical Risks" group, Alstom has prepared upcoming challenges linked to lead as a candidate substance (REACH); Alstom has set up a vigilance plan on 56 substances and as of today 92 % of substances have been phased out

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

509,850

**Describe the aim of your organization's funding**

Alstom participates in the work of UNIFE in order to contribute to the representation of the interests of railway manufacturers at EU level.

**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

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**Trade association**

Other, please specify

Hydrogen Europe

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

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom is a member of "Hydrogen Europe", the industry association of the "Clean Hydrogen Joint Undertaking". Hydrogen Europe represents more than 350 companies, 20 EU regions and 30 national associations promoting hydrogen and fuel cells as efficient and clean technologies, while the Clean Hydrogen JU supports research in the field of hydrogen and fuel cells.

Alstom is a supportive member of Hydrogen Europe and supports the association's position on climate change. Alstom participates in the various working groups for the drafting of positions and the preparation of advocacy actions. Alstom also participates in the preparation of work programme (calls) in the context of the Clean Hydrogen Joint undertaking to ensure that rail and the need of end-users are also properly considered.

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

25,000

**Describe the aim of your organization's funding**

By participating in the work of Hydrogen Europe, Alstom promotes rail in the hydrogen ecosystem. Hydrogen Europe allows discussions between companies and regional entities on hydrogen-related subjects. Finally, Hydrogen Europe has legitimacy to represent the interests of hydrogen stakeholders to EU decision makers.

**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

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**Trade association**

Other, please specify

UITP

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

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom is member of the International Association of Public Transport (UITP), the international association of public transport, promoting sustainable urban mobility. UITP is a worldwide network with over 1900 members that bring together all public transport stakeholders.

Alstom is a supportive member of UITP and supports the association's position on climate change and its ambition to promote modal shift.

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

74,635

**Describe the aim of your organization's funding**

Alstom participates in UITP activities, including the drafting of position papers. Alstom currently chairs the Vehicle & Equipment Industry Committee and is also vice-chair of the UITP Sustainability Committee and as such participates to UITP events. Finally, Alstom participates as a member of consortia for UITP-led collaborative R&D projects.

**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

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**Trade association**

Other, please specify

Platform for Electro-Mobility

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

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom contributes to the Platform for Electro-Mobility, a voluntary group of 47 companies, NGO and European sectorial associations, which encourages a wider use of electric vehicles in order to reduce emissions from the transport sector.

Alstom supports the platform's position on climate change.

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

500

**Describe the aim of your organization's funding**

Alstom is participating in several working groups to ensure that rail mobility is taken into account in the promotion of electromobility

**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

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**Trade association**

Federation of French Industry (MEDEF)

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

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom is member of MEDEF, which is a network of entrepreneurs in France. MEDEF mission is to promote free enterprise and encourage and enhance entrepreneurship. The MEDEF maintains a dialogue with all the actors of civil society and, with the various decision-makers, works towards achieving a better understanding of the constraints and the strengths of businesses

Alstom is more ambitious than the MEDEF on climate and environmental-related topics. In this sense, the participation of sustainable mobility players such as Alstom helps to moderate the MEDEF's position on key environmental files such as the CBAM and the EU Taxonomy.

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

30,000

**Describe the aim of your organization's funding**

The MEDEF is an important representative of businesses in France. Alstom's contribution in MEDEF allows it to participate in analysis, position setting and thematic events important for the group's activities.

**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

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**Trade association**

Other, please specify  
OECD ITF

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

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We publicly promote their current position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom is a member of the Corporate Partnership Board of the International Transport Forum (ITF), an intergovernmental organisation of the OECD, which gathers Ministers of Transport at global level.

The ITF mission is to foster a deeper understanding of the role of transport in economic growth, environmental sustainability and social inclusion and to raise the public profile of transport policy.

The ITF organises global dialogue for better transport and acts as a platform for discussion and pre-negotiation of policy issues across all transport modes. ITF analyses trends, share knowledge and promote exchange among transport decision-makers and civil society.

Alstom is generally aligned with the ITF position on climate change.

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

50,000

**Describe the aim of your organization's funding**



Alstom's participation in ITF aims at ensuring that sustainable mobility (rail and public transport) is well promoted at international level. Alstom participates to the ITF's Annual Summit.

**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

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**Trade association**

International Chamber of Commerce (ICC)

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

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We have already influenced them to change their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**

Alstom is member of International Chamber of Commerce (ICC) France. ICC plays a role in scaling widespread action on Sustainable Development Goals and formulating business voluntary rules.

ICC France contributes to the elaboration of ICC positions, defends the positions of companies to public authorities, organizes seminars on topics related to international economic and legal activity, training courses on ICC rules and best practices in contracting and financing international trade and offers services adapted to the needs of companies to help them in their international development and remove obstacles to bilateral and multilateral trade.

Alstom is sometimes more ambitious than other ICC players on climate and environmental-related topics. In this sense, the participation of sustainable mobility players such as Alstom helps to promote key environmental priorities within ICC work. ICC France is an important representative of businesses. Alstom's contribution in ICC allows it to participate in analysis, position setting and thematic events important for the group's activities.

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

**Describe the aim of your organization's funding**

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

Yes, we have evaluated, and it is aligned

## C12.3c

**(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.**

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**Type of organization**

Research organization

**State the organization to which you provided funding**

Alstom is a member of the Shift Project. The Shift Project is a French think tank advocating the shift to a post-carbon economy. As a non-profit organisation committed to serving the general interest through scientific objectivity, the Shift Project is dedicated to informing and influencing the debate on energy transition in Europe.

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

25,000

**Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate**

Alstom contributed to the "Energy Climate Scenarios: Evaluation and Guidance", the new report by The Shift Project with AFEP, from November 2019. This report provide "tools of strategic foresight [which] enable the confrontation of the robustness of an organization's strategy, with hypotheses on possible futures, some of which being undesirable", regarding the role in public and private organisations' decisions

**Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Type of organization**

Non-Governmental Organization (NGO) or charitable organization

**State the organization to which you provided funding**

Alstom is a member of Oree, a multi-stakeholder association federating and leading a network of committed players to exchange and implement an environmental dynamic at the service of the territories. Today, ORÉE brings together, supports and provides tools to a network of more than 180 members: companies, local authorities, professional and environmental associations, academic and institutional organizations

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

7,500

**Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate**

The association's action is focused on three priorities:

- Biodiversity and economy, or how to integrate biodiversity into the strategy of organizations
- Circular economy, covering approaches focused on products/services/equipment (functionality economy, eco-design), sectors (recycling/recovery) and territories (industrial and territorial ecology)
- CSR/ESG reporting in line with French and European regulations on the publication of non-financial information

**Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

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**Type of organization**

Research organization

**State the organization to which you provided funding**

TDIE's objective is to develop proposals for the development of multimodal and sustainable mobility systems with transport stakeholders, to submit them for debate, and to bring them to the attention of public authorities.

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

5,000

**Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate**

As a contributor to TDIE think tank, Alstom participates in various working groups to support the 3 pillars that govern the raison d'être of the TDIE, namely:

- Reflection on issues related to the financing of infrastructure and mobility services.
- Conducting studies on passenger and freight transportation network, its strength and weaknesses and regarding complementary infrastructure needs
- Mapping of existing infrastructure to guide national policies

**Have you evaluated whether this funding 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, incorporating the TCFD recommendations

**Status**

Complete

**Attach the document**

 20220609\_Alstom\_URD\_EN.pdf

 Alstom\_CSR\_Brochure\_2022\_EN.pdf

**Page/Section reference**

We publish information in our Universal Registration Document, chapter 6 (p249-344). We also published a CSR brochure highlighting all relevant KPIs regarding net zero ambition by 2050/.

**Content elements**

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

**Comment**

## 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	
Row 1	No, and we do not plan to have both within the next two years

## C15.2

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

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

## C15.3

**(C15.3) Does your organization assess the impact of its value chain on biodiversity?**

	Does your organization assess the impact of its value chain on biodiversity?
Row 1	Yes, we assess impacts on biodiversity in our downstream value chain only

## C15.4

**(C15.4) 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?
Row 1	No, we are not taking any actions to progress our biodiversity-related commitments, but we plan to within the next two years

## C15.5



**(C15.5) 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	Yes, we use indicators	State and benefit indicators

## C15.6

**(C15.6) 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
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In other regulatory filings	Other, please specify Alstom has mentioned some pilot projects which were conducted in France related to biodiversity. Those projects included impact assessment, monitoring activities as well as biodiversity restoration.	- URD 2022, p328  <sub>1</sub>
Other, please specify Community Action Plan	Other, please specify Example of projects led on industrial sites, or to offset IT scraps	- p1 and 4 (lines highlighted in yellow) of the Community Action Plan (published on Alstom's website)  <sub>2, 3</sub>
Other, please specify press release	Other, please specify exemple of waste recycling and reforestation in Lapa	<a href="https://www.alstom.com/press-releases-news/2022/7/alstom-recognised-its-promotion-environmental-protection-through-waste">https://www.alstom.com/press-releases-news/2022/7/alstom-recognised-its-promotion-environmental-protection-through-waste</a>

 <sub>1</sub>20220609\_Alstom\_URD\_EN.pdf

 <sub>2</sub>Alstom\_Linkedin\_Kazakhstan tree planting.pdf

 <sub>3</sub>Activities\_from\_the\_global\_Country\_Community\_Action\_Plans\_FY\_2021\_22.pdf

## C16. Signoff

### C-FI

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

### C16.1

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

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

## SC. Supply chain module

### SC0.0

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

N.A.

## SC0.1

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

	Annual Revenue
Row 1	15,471,000,000

## 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.**

### Requesting member

Metropolitan Transportation Authority (MTA)

### Scope of emissions

Scope 3

### Allocation level

Company wide

### Allocation level detail

### Emissions in metric tonnes of CO<sub>2</sub>e

394

### Uncertainty (±%)

5

### Major sources of emissions

CO<sub>2</sub> emissions are distributed from the type of contract: Rolling stock, Services and Signalling. 146 TCO<sub>2</sub> are estimated from the signalling sold products, 73 TCO<sub>2</sub> for Services and 174 TCO<sub>2</sub> for Rolling Stock.

Alstom has developed a methodology to estimate annually the company's scope 3 greenhouse gas emissions stemming from purchased good and services and the use of sold products. This approach has been evaluated and still deemed suitable.

Purchase of goods and services involved in products and services manufacturing and delivery are estimated based on sales ratio and available eco-design data by type of solutions (LCAs, EPDs). The emission factors for the specific raw materials used (e.g. steel, plastic) are provided by ADEME Base Carbone (French Agency for Environment). For each group of Alstom solutions (RS, Services, Signalling...), the tool contains a predefined list of representative solutions that were created from Alstom's LCAs, EPDs and from external databases.

### Verified

Yes

**Allocation method**

Other, please specify

Based on activity from the contract. For Rolling stock the vehicles sold and the passenger-km, for Services the working hours, for Signalling the energy consumption.

**Market value or quantity of goods/services supplied to the requesting member**

590,000,000

**Unit for market value or quantity of goods/services supplied**

Currency

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

As explained before, the allocation is done through the sold products methodology. Alstom calculates the CO2 related to each contract and then this ones are assigned to the customer. The reported value in currency is not the better estimation based, as each product family has its own methodology (i.e. rolling stock will estimate CO2 based on an estimation of vehicles sold + passenger activity, while services will use the number of worked hours).

The allocated CO2 emissions are at contract level. Data from sales, ecodesign and energy consumption is used to estimate this emission. The value is given for the consumption of raw materials.

---

**Requesting member**

Metropolitan Transportation Authority (MTA)

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO2e**

5,796

**Uncertainty (±%)**

5

**Major sources of emissions**

CO2 emissions are distributed from the type of contract: Rolling stock, Services and Signalling. 2821 TCO2 are estimated from the signalling sold products, 109 TCO2 for Services and 2866 TCO2 for Rolling Stock.

Alstom has developed a methodology to estimate annually the company's scope 3



greenhouse gas emissions stemming from purchased good and services and the use of sold products. This approach has been evaluated and still deemed suitable. Purchase of goods and services involved in products and services manufacturing and delivery are estimated based on sales ratio and available eco-design data by type of solutions (LCAs, EPDs). The emission factors for the specific raw materials used (e.g. steel, plastic) are provided by ADEME Base Carbone (French Agency for Environment). For each group of Alstom solutions (RS, Services, Signalling...), the tool contains a predefined list of representative solutions that were created from Alstom's LCAs, EPDs and from external databases.

The allocated CO2 emissions are at contract level. Data from sales, ecodesign and energy consumption is used to estimate this emission. The value is given for the consumption of raw materials.

### Verified

Yes

### Allocation method

Other, please specify

Based on activity from the contract. For Rolling stock the vehicles sold and the passenger-km, for Services the working hours, for Signalling the energy consumption.

### Market value or quantity of goods/services supplied to the requesting member

590,000,000

### Unit for market value or quantity of goods/services supplied

Currency

### Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

As explained before, the allocation is done through the sold products methodology. Alstom calculates the CO2 related to each contract and then this ones are assigned to the customer. The reported value in currency is not the better estimation based, as each product family has its own methodology (i.e. rolling stock will estimate CO2 based on an estimation of vehicles sold + passenger activity, while services will use the number of worked hours).

The allocated CO2 emissions are at contract level. Data from sales, ecodesign and energy consumption is used to estimate this emission. The value is given for the consumption of the use of sold products.

---

### Requesting member

Vale SA

### Scope of emissions

Scope 3

### Allocation level

Company wide

### **Allocation level detail**

#### **Emissions in metric tonnes of CO<sub>2</sub>e**

5

#### **Uncertainty (±%)**

5

#### **Major sources of emissions**

CO<sub>2</sub> emissions are distributed from the type of contract: Signalling.

Alstom has developed a methodology to estimate annually the company's scope 3 greenhouse gas emissions stemming from purchased good and services and the use of sold products. This approach has been evaluated and still deemed suitable. Purchase of goods and services involved in products and services manufacturing and delivery are estimated based on sales ratio and available eco-design data by type of solutions (LCAs, EPDs). The emission factors for the specific raw materials used (e.g. steel, plastic) are provided by ADEME Base Carbone (French Agency for Environment). For each group of Alstom solutions (RS, Services, Signalling...), the tool contains a predefined list of representative solutions that were created from Alstom's LCAs, EPDs and from external databases.

#### **Verified**

Yes

#### **Allocation method**

Allocation based on another physical factor

#### **Market value or quantity of goods/services supplied to the requesting member**

3,100,000

#### **Unit for market value or quantity of goods/services supplied**

Currency

#### **Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

As explained before, the allocation is done through the sold products methodology. Alstom calculates the CO<sub>2</sub> related to each contract and then this ones are assigned to the customer. The reported value in currency is not the better estimation based, as each product family has its own methodology (i.e. rolling stock will estimate CO<sub>2</sub> based on an estimation of vehicles sold + passenger activity, while services will use the number of worked hours).

The allocated CO<sub>2</sub> emissions are at contract level. Data from sales, ecodesign and energy consumption is used to estimate this emission. The value is given for the consumption of raw materials.

**Requesting member**

Vale SA

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail****Emissions in metric tonnes of CO<sub>2</sub>e**

172

**Uncertainty (±%)**

5

**Major sources of emissions**

CO<sub>2</sub> emissions are distributed from the type of contract: Signalling.

Alstom has developed a methodology to estimate annually the company's scope 3 greenhouse gas emissions stemming from purchased good and services and the use of sold products. This approach has been evaluated and still deemed suitable. Purchase of goods and services involved in products and services manufacturing and delivery are estimated based on sales ratio and available eco-design data by type of solutions (LCAs, EPDs). The emission factors for the specific raw materials used (e.g. steel, plastic) are provided by ADEME Base Carbone (French Agency for Environment). For each group of Alstom solutions (RS, Services, Signalling...), the tool contains a predefined list of representative solutions that were created from Alstom's LCAs, EPDs and from external databases.

**Verified**

Yes

**Allocation method**

Allocation based on another physical factor

**Market value or quantity of goods/services supplied to the requesting member**

3,100,000

**Unit for market value or quantity of goods/services supplied**

Currency

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

As explained before, the allocation is done through the sold products methodology. Alstom calculates the CO<sub>2</sub> related to each contract and then these are assigned to the customer. The reported value in currency is not the better estimation based, as each product family has its own methodology (i.e. rolling stock will estimate CO<sub>2</sub> based on an

estimation of vehicles sold + passenger activity, while services will use the number of worked hours).

The allocated CO2 emissions are at contract level. Data from sales, ecodesign and energy consumption is used to estimate this emission. The value is given for the consumption of the use of sold products.

## SC1.2

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

Alstom Universal Registration Document

[https://www.alstom.com/sites/alstom.com/files/2022/06/09/20220609\\_Alstom\\_URD\\_EN.pdf](https://www.alstom.com/sites/alstom.com/files/2022/06/09/20220609_Alstom_URD_EN.pdf)

## 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
Other, please specify Information from customers	Alstom is currently accounting the CO2 emissions per each contract depending on the product family. As an example, for rolling stock, the sales of the year are used to estimate the number of units sold and from there, calculate the activity in passenger-km. We use assumptions from our engineering teams to allocate a representative solution to that contract, with data on energy consumption. Information from customer on actual energy consumption will give a better accuracy of this emissions, but this will mean a complex reporting system, requesting sensible information to our customers.
Other, please specify Information from customers	Alstom is currently accounting the CO2 emissions per each contract depending on the product family. As an example, for rolling stock, the sales of the year are used to estimate the number of units sold and from there, the quantity of materials used to build the train. We use assumptions from our engineering teams to allocate a representative solution to that contract. Information from supplier on actual CO2 emissions associated to the product that is used for the given train will give a better accuracy of these emissions. Alstom is currently working on a tool and a process to capture more data from suppliers.

## 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.**

Alstom is currently working in a digital tool for the CO2 emissions from Sold Products. This will help ease the internal process of calculation and have an added value as more accurate information can be assigned per contract. Alstom will also explore the collaboration with certain customers to capture back data that can help in getting a more accurate CO2 emissions from the sold products.

## SC2.1

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

---

### Requesting member

Metropolitan Transportation Authority (MTA)

### Group type of project

New product or service

### Type of project

New product or service that reduces customers operational emissions

### Emissions targeted

Actions to reduce customers' operational emissions (customer scope 1 & 2)

### Estimated timeframe for carbon reductions to be realized

0-1 year

### Estimated lifetime CO2e savings

### Estimated payback

0-1 year

### Details of proposal

Energy diagnosis for trains to reduce power consumption via the Alstom Energy Metering System Principles: The Alstom EMS is fitted to a traction unit and measures the energy taken from or returned (during regenerative braking) to the contact line. The system consists of 4 main components. 1) An energy measurement function for voltage and current (including the energy returned to the contact line during regeneration, when using any electric traction power supply system. 2) An on-board localization function (GPS). 3) A data handling system that produces and stores the compiled energy billing data with true energy values ready for transmission. 4) A ground data collection service that transmits to the ERESS server.

---

### Requesting member

Metropolitan Transportation Authority (MTA)

**Group type of project**

New product or service

**Type of project**

New product or service that reduces customers operational emissions

**Emissions targeted**

Actions to reduce customers' operational emissions (customer scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**

3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**

3-5 years

**Details of proposal**

HVAC optimised for consumption : based on measurements, Alstom can also work with the authority to develop load shedding concepts during higher consumption periods to be put in place with the HVAC suppliers. For example, on very hot days when power costs are highest, if the train is running with limited passengers (monitored via weight and cameras) HVAC loads can be reduced or go into a degraded mode to reduce demand from the 3rd rail.

---

**Requesting member**

Metropolitan Transportation Authority (MTA)

**Group type of project**

New product or service

**Type of project**

New product or service that reduces customers operational emissions

**Emissions targeted**

Actions to reduce customers' operational emissions (customer scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**

3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**

3-5 years

### **Details of proposal**

Introduction of “idle” modes for end of routes to easily eliminate additional power loads when a car is not in service : similar concept to the HVAC load shedding. Once train reached a terminus if there was a gap in excess of 10 minutes between when the train would return to service an operational mode could be selected by the operator. This idle mode would lock doors, reduce HVAC load, turn off lights and PACIS, keep limited HVAC for the operators compartments, and remove power to the traction. This could be tailored to the agency preference to reduce power consumption when trains are idle in yards or in stations.

---

### **Requesting member**

Metropolitan Transportation Authority (MTA)

### **Group type of project**

New product or service

### **Type of project**

New product or service that has a lower upstream emissions footprint

### **Emissions targeted**

Actions that would reduce our own supply chain emissions (our own scope 3)

### **Estimated timeframe for carbon reductions to be realized**

1-3 years

### **Estimated lifetime CO2e savings**

### **Estimated payback**

1-3 years

### **Details of proposal**

Focus on utilizing recycled materials throughout the train and reducing landfills contributions: This is part of our design principles of EcoDesign, we are leveraging the full lifecycle of materials and ensuring the products specified do not contribute to landfills but can be fully recycled wherever possible.

---

### **Requesting member**

Metropolitan Transportation Authority (MTA)

### **Group type of project**

New product or service

### **Type of project**

New product or service that reduces customers operational emissions

**Emissions targeted**

Actions to reduce customers' operational emissions (customer scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**

3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**

3-5 years

**Details of proposal**

Urbalis is the CBTC system to maximize network capacity and throughput, headways down to 60 seconds are achieved. It is a highly scalable solution in terms of functions, performance and costs. In low density or high density area, Urbalis provides the optimal performance. It provides lifecycle costs by reducing the number of track elements to a minimum and operating the trains with an energy-optimal driving. Thanks to reduced trackside equipment, it is easier and faster to operate migration of any kind: mixed or switched operations.

---

**Requesting member**

Metropolitan Transportation Authority (MTA)

**Group type of project**

Reduce Logistics Emissions

**Type of project**

Other, please specify  
online/virtual provision of services

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

0-1 year

**Estimated lifetime CO2e savings**

5,592

**Estimated payback**

0-1 year

**Details of proposal**

Perform product inspection online rather than traveling to supplier's site for in person inspection. New York City Transit Authority travels to Alstom's sites at least 5 times per year to Alstom Warrensburg site and 3 times a year to Alstom Hornell site for the



inspection of signaling equipment. The inspection could be performed virtually to minimize travel time and expenses and the environmental benefits. Considering respectively: - flights from New York to Kansas city and Rochester - car travel from the airport to each Alstom site - 5 travels by 2 persons a year from New York to Alstom Warrensburg site - 3 travels by 1 person a year from New York to Alstom Hornell Site - An emission factor of 404 gCO<sub>2</sub>/mile for an average passenger car (EPA, 2018) - emission factors from the ICAO Carbon Emissions Calculator for flights The annual CO<sub>2</sub>e savings is estimated to 5592 kgCO<sub>2</sub> per year.

---

**Requesting member**

Metropolitan Transportation Authority (MTA)

**Group type of project**

New product or service

**Type of project**

New product or service that reduces customers operational emissions

**Emissions targeted**

**Estimated timeframe for carbon reductions to be realized**

3-5 years

**Estimated lifetime CO<sub>2</sub>e savings**

**Estimated payback**

3-5 years

**Details of proposal**

Alstom and Long Island Rail Road (LIRR) is exploring the potential application of one of Alstom's innovative and environmentally-friendly traction technologies. The feasibility study consists of converting a portion the railroad's cars to battery-operated electric multiple units (BEMUs). BEMUs could potentially replace the use of diesel locomotives in the future on the railroad's non-electrified lines and allow passengers to travel to their destinations without having to change trains. BEMUs could open the possibility that in years and decades ahead, the railroad could entirely replace the noisy, carbon-emitting diesel fleet with quiet, reliable, zero-emission electric cars offering seamless transfer-free travel across the railroad. The feasibility Study and demonstration for new cars that would be split into 2 phases: 1-Analysis and Development Phase / 2- Design and Demonstration Phase

---

**Requesting member**

Vale SA

**Group type of project**

New product or service

**Type of project**

New product or service that reduces customers operational emissions

**Emissions targeted**

Actions that would reduce our own operational emissions (our scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**

3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**

3-5 years

**Details of proposal**

Alstom's locomotive portfolio is the broadest in the industry and covers most electric and hybrid markets worldwide. Our Prima and Traxx locomotives have been proven to pull heavier train loads compared with locomotives of the same class in many applications. For example, Prima shunting locomotives are designed to reduce CO2 and noise emissions. The hybrid (diesel and battery) based Prima H3 has proven to save up to 60% in diesel fuel with its clever energy management. It has also reduced noise by approx. 15 dB, which is highly appreciated in residential neighbourhoods. The Prima H4 locomotives even go a step further in eco-friendliness by offering catenary and diesel, or catenary and battery-based solutions for heavier shunting, track works or short haul operation. This gives substantial reductions in noise and carbon footprint – up to 6,000 tonnes/year at SBB Cargo.

---

**Requesting member**

Vale SA

**Group type of project**

New product or service

**Type of project**

New product or service that reduces customers products / services operational emissions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

1-3 years

**Details of proposal**

Alstom consistently applies a life-cycle approach to its products and services in order to maximise the environmental and economic benefits over time. This approach allows the Company to limit the ecodesign and circular economy risks and to benefit from new opportunities. Alstom's ecodesign approach is based on life-cycle thinking, consideration of customer and stakeholder expectations, and continuous improvement. The priorities set in Alstom's ecodesign policy focus on the: energy efficiency of rail transport systems; use of greener, recyclable, and natural materials; reduction of noise and vibrations; reduction of air emissions; circular economy and end of life management. For the ACT800, there is currently on an ecodesign approach, More than 80% of ATC800 preferred products are mapped for energy consumption, hazardous substances and recyclability for continuous improvements in CO2 emissions. There will be a full replacement of hazardous substances that were previously used in the solution.

---

**Requesting member**

Vale SA

**Group type of project**

New product or service

**Type of project**

New product or service that reduces customers operational emissions

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

1-3 years

**Details of proposal**

Alstom consistently applies a life-cycle approach to its products and services in order to maximise the environmental and economic benefits over time. This approach allows the Company to limit the ecodesign and circular economy risks and to benefit from new opportunities. Alstom's ecodesign approach is based on life-cycle thinking, consideration of customer and stakeholder expectations, and continuous improvement.

The priorities set in Alstom’s ecodesign policy focus on the: energy efficiency of rail transport systems; use of greener, recyclable, and natural materials; reduction of noise and vibrations; reduction of air emissions; circular economy and end of life management. For ElectroLogIXS, an ecodesign approach is currently undergoing to reduce the quantity of material on this solution. The explored option is to reduce/remove an interface panel and cabling from one of the assemblies and the other has a goal to reduce the power needed for track circuit communication. This is currently under investigation by engineering teams.

## 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?**

Yes, I will provide data

### SC4.1a

**(SC4.1a) Give the overall percentage of total emissions, for all Scopes, that are covered by these products.**

### SC4.2a

**(SC4.2a) Complete the following table for the goods/services for which you want to provide data.**

**Name of good/ service**

Metro electrification system 1,5KV - rigid catenary

**Description of good/ service**

This electrification solution encompasses all the Equipment and materials required to feed metro trains from the connection to the local electricity supplier.

Type of transport: Metro

Type of current: 1500 V DC, 50 Hz

Total length of double passengers’ line: 16 km

100% tunnel monotube

Total length of single track 40 km: line & depot

Quantity of passengers’ stations: 12

Design speed: 80km/h

Lifetime: 20 years

**Type of product**

Final

**SKU (Stock Keeping Unit)**

187

**Total emissions in kg CO<sub>2</sub>e per unit**

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

**Methods used to estimate lifecycle emissions**

---

**Name of good/ service**

Coradia Polyvalent

**Description of good/ service**

The Coradia Polyvalent range is the new solution from Alstom fully compliant to TSI (Technical Specification for Interoperability) for the peri-urban, regional and mainline train market. This new generation of trains is modular and accessible. Alstom developed the Coradia Polyvalent “around” the passenger, while trying to take account of all profiles: improved access thanks to a low floor (corridor without steps), efficient information systems, and generous space for luggage, etc.

The models in the Coradia Polyvalent range are designed to suit peri-urban, regional, intercity and cross-border lines, both in France and abroad. They represent a solution capable of travelling at a maximum speed of 200 km/h to meet the needs of mainlines.

**Type of product**

Final

**SKU (Stock Keeping Unit)**

1736

**Total emissions in kg CO<sub>2</sub>e per unit**

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

**Methods used to estimate lifecycle emissions**

---

**Name of good/ service**

Mainline track Concrete track NBT

**Description of good/ service**

NBT is composed of two superimposed concrete slabs (a foundation layer and a steel-reinforced track slab) tied together via a shear key on top of the foundation slab, with transversal joints for concrete crack control.

**Type of product**

Final

**SKU (Stock Keeping Unit)**

0

**Total emissions in kg CO<sub>2</sub>e per unit**

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

**Methods used to estimate lifecycle emissions**

---

**Name of good/ service**

DT5 vehicle

**Description of good/ service**

The DT5 vehicle concept of the consortium of ALSTOM Transport Deutschland GmbH and Bombardier Transportation is based on the development of the DT4 vehicles. The DT5 is of a consistent lightweight design and allows energy recovery from braking, with the energy consumption being reduced substantially. In addition, the metro vehicle is characterized by a large number of recyclable materials and waives an exterior paint. Due to its wide entrance, a minimized entry step as well as stepless passages between the car units and the resulting redundant entry and exit possibilities, the DT5 allows barrier-free travelling. Gangways between the cars improve the distribution of

passengers throughout the whole vehicle. The air-conditioned passenger room, ergonomically designed seats as well as an extended information system using passenger screens provide a comfortable feeling of riding.

**Type of product**

Final

**SKU (Stock Keeping Unit)**

289

**Total emissions in kg CO<sub>2</sub>e per unit**

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

**Methods used to estimate lifecycle emissions**

**Name of good/ service**

Prima II

**Description of good/ service**

This new generation of Prima electric freight locomotives is designed for cross-border itineraries in Europe and to give freight train operators and their customers the performance, flexibility and reliability they expect. Prima locomotives are also designed to give drivers the most modern comfort, innovative technology as well as an environmentally friendly use of resources.

The Prima development took into account the major environmental impacts. The vehicle is of a consistent lightweight design and allows energy recovery from braking, with the Energy consumption being reduced substantially. Due to a large number of recyclable materials, the Prima meets the highest environmental requirements.

**Type of product**

Final

**SKU (Stock Keeping Unit)**

266

**Total emissions in kg CO<sub>2</sub>e per unit**

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

**Methods used to estimate lifecycle emissions**

---

**Name of good/ service**

Azur

**Description of good/ service**

The AZUR train sets a high standard for environmentally sustainable rail transportation.

**Type of product**

Final

**SKU (Stock Keeping Unit)**

69

**Total emissions in kg CO<sub>2</sub>e per unit**

**±% change from previous figure supplied**

**Date of previous figure supplied**

**Explanation of change**

**Methods used to estimate lifecycle emissions**

## **SC4.2b**

**(SC4.2b) Complete the following table with data for lifecycle stages of your goods and/or services.**

---

**Name of good/ service**

Mainline track Concrete track NBT

**Please select the scope**

Scope 3



**Please select the lifecycle stage**

Other, please specify

Upstream

**Emissions at the lifecycle stage in kg CO2e per unit**

2,020,000

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is provided directly by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

---

**Name of good/ service**

Mainline track Concrete track NBT

**Please select the scope**

Scope 1, 2 & 3

**Please select the lifecycle stage**

Other, please specify

Core

**Emissions at the lifecycle stage in kg CO2e per unit**

448,000

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

---

**Name of good/ service**

Mainline track Concrete track NBT

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify  
Downstream

**Emissions at the lifecycle stage in kg CO2e per unit**

2,180,000

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

---

**Name of good/ service**

Metro electrification system 1,5KV - rigid catenary

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify  
Upstream

**Emissions at the lifecycle stage in kg CO2e per unit**

301,000

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

---

**Name of good/ service**

Metro electrification system 1,5KV - rigid catenary

**Please select the scope**

Scope 1, 2 & 3

**Please select the lifecycle stage**

Other, please specify

Core

**Emissions at the lifecycle stage in kg CO2e per unit**

19,900

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

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**Name of good/ service**

Metro electrification system 1,5KV - rigid catenary

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Downstream

**Emissions at the lifecycle stage in kg CO2e per unit**

10,000,000

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

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**Name of good/ service**

Coradia Polyvalent

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify  
Upstream

**Emissions at the lifecycle stage in kg CO2e per unit**

192,390

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

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**Name of good/ service**

Coradia Polyvalent

**Please select the scope**

Scope 1, 2 & 3

**Please select the lifecycle stage**

Other, please specify  
Core

**Emissions at the lifecycle stage in kg CO2e per unit**

6,922,080

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

**Name of good/ service**

Coradia Polyvalent

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Downstream

**Emissions at the lifecycle stage in kg CO2e per unit**

1,663

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

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**Name of good/ service**

DT5

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Upstream

**Emissions at the lifecycle stage in kg CO2e per unit**

5,137,600

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

-

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**Name of good/ service**

DT5

**Please select the scope**

Scope 1, 2 & 3

**Please select the lifecycle stage**

Other, please specify

Core

**Emissions at the lifecycle stage in kg CO<sub>2</sub>e per unit**

177,072,480

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**Name of good/ service**

DT5

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Downstream

**Emissions at the lifecycle stage in kg CO<sub>2</sub>e per unit**

118,352

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**Name of good/ service**

Prima II

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Upstream

**Emissions at the lifecycle stage in kg CO2e per unit**

8,712,000

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**Name of good/ service**

Prima II

**Please select the scope**

Scope 1, 2 & 3

**Please select the lifecycle stage**

Other, please specify

Core

**Emissions at the lifecycle stage in kg CO2e per unit**

355,296,600

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**Name of good/ service**

Prima II

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Downstream

**Emissions at the lifecycle stage in kg CO<sub>2</sub>e per unit**

505,800

**Is this stage under your ownership or control?**

No

**Type of data used**

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**Name of good/ service**

Azur

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Upstream

**Emissions at the lifecycle stage in kg CO<sub>2</sub>e per unit**

180,499

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**



Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**Name of good/ service**

Azur

**Please select the scope**

Scope 1, 2 & 3

**Please select the lifecycle stage**

Other, please specify

Core

**Emissions at the lifecycle stage in kg CO<sub>2</sub>e per unit**

823,660

**Is this stage under your ownership or control?**

Yes

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**Name of good/ service**

Azur

**Please select the scope**

Scope 3

**Please select the lifecycle stage**

Other, please specify

Downstream

**Emissions at the lifecycle stage in kg CO<sub>2</sub>e per unit**

8,600

**Is this stage under your ownership or control?**

No

**Type of data used**

Secondary

**Data quality**

Data is directly provided by the Environmental Product Declaration.

**If you are verifying/assuring this product emission data, please tell us how**

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**SC4.2c**

**(SC4.2c) Please detail emissions reduction initiatives completed or planned for this product.**

Name of good/ service	Initiative ID	Description of initiative	Completed or planned	Emission reductions in kg CO2e per unit
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**SC4.2d**

**(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?**

No

**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

**The European Climate Pact Submission**

**Please indicate your consent for CDP to showcase your disclosed environmental actions on the European Climate Pact website as pledges to the Pact.**

Yes, we wish to pledge to the European Climate Pact through our CDP disclosure

**Please confirm below**

I have read and accept the applicable Terms