KORDSA TEKNİK TEKSTİL A.Ş. - Climate Change 2020

C0. Introduction

C0.1

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

Established in 1973 as a subsidiary of Sabancı Holding, Kordsa is a global player in the tire and construction reinforcement as well as composite technologies markets and the leading manufacturer of industrial nylon and polyester yarn, tire cord fabric and single end cord. The success story started in İzmit-Turkey in 1973 with Sabancı Holding's tire cord manufacturing plant investment. Through the years, Kordsa became the market leader in Turkey and accumulated great know-how on reinforcement materials. Kordsa now operates in 5 countries, namely, Turkey, Brazil, Indonesia, Thailand and the US with 4,500 reinforcers at its 12 production facilities. 2 of these production facilities have also R&D activities. Kordsa had 87 active R&D projects in the reporting year. These projects focus on issues like: reducing rolling resistance, ecodesign, chemical recycling, reducing the weight of products, reducing water pollution and GHG emissions.

Kordsa provides high quality service and end to end solutions with a high level of technical competency. The main objective of the company is to "progress with innovative value-added technologies" by continuously investing in its employees and customers. Worldwide the company is the acclaimed holder of "The Reinforcer" title, thanks to its market leader position, its strong global footprint, its technological leadership and its experience on reinforcement.

"Today, Kordsa, whose story started in Turkey, spread on the whole world with its products. Every one in three automobile tires and every two in three aircraft tires are globally reinforced by Kordsa."

Kordsa aims to create sustainable value for all its key stakeholders and the society by offering high value-added innovative reinforcement solutions to its customers, with a mission to “Reinforce Life.”

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 2019	December 31 2019	Yes	1 year

C0.3

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

Brazil
Indonesia
Thailand
Turkey
United States of America

C0.4

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

USD

C0.5

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

Operational control

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
Chief Executive Officer (CEO)	CEO has the ultimate overall responsibility at all terms including climate change-related issues, some of the climate-change related responsibilities of the CEO are as follows: - Reviewing and guiding climate-related strategies - Identification of targets and approval and financing of projects that will lead the way to achieving the climate targets. - Ensuring the company performs within the limits of the pre-determined energy and water management goals - Management of climate-related risks and opportunities. During the reporting year, our CEO has led many climate-change related decisions, one of them being the revision of our GHG emission reduction targets. In order to have an ambitious target in line with the IEA's well below 2 degrees scenario, our CEO has approved a target of 17,5 % reduction in our Scope 1 and 2 GHG emissions from 2018 levels until 2025 and a 33.6% reduction from 2018 levels until 2034. He has also approved submission of a letter of commitment to SBTi.
Board-level committee	There is an Executive Committee named as the Executive Leadership Team (ELT) in charge of making decisions on how to take action on climate related issues. ELT consists of each Kordsa site's Chief Operation Officers (COO). Business Process Review (BPR) meetings are held monthly where all corporate targets and performance is discussed under the chairman of the CEO and the outcomes of these BPR meetings are reported to the ELT who reviews and makes decisions on these matters quarterly. Brand & Corporate Communications and Sustainability Manager also reports directly to the CEO on sustainability performance – sustainability roadmap progress-, including GHG emissions and water consumption, periodically. In the reporting year ELT team assessed the options for climate change related targets. Both intensity and absolute GHG emission reduction targets were assessed, together with targets on reducing waste, packaging, renewable energy consumption, etc. The Executive Leadership Team has decided to implement ambitious climate related targets which are in line with IEA's WB2D Scenario which was also approved by the CEO.
Chief Operating Officer (COO)	Chief Operating Officer is the main operational responsible for the sustainability performance at plants which include but are not limited to energy and water management as well as GHG emissions performance of each Kordsa site. All of the COO's have contributed the target setting process, as the attainment of these targets will also be included in their KPIs. The COO's are also rewarded if they exceed the targeted reductions.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	The Board of Directors, our supreme governing body, supervises performance on the sustainability priorities at Kordsa. The Kordsa Executive Leadership Team (ELT) is chaired by the CEO and consists of Deputy General Managers and Directors (COOs) of each site. ELT is responsible for plant operations and sets targets for sustainability focus areas determined biennially within the company and revises them when necessary. ELT quarterly discusses and approves action plans based on reported monthly Business Process Review outcomes. This quarterly ELT reviews not only include Kordsa's progress against set targets (including climate-related energy consumption targets and GHG emission reduction targets) but also the risk assessment process outcomes (climate-related issues being covered under various risk types such as production and legal risks).In the reporting year, during the ELT reviews, the necessity of revision of our GHG calculation methodology was assessed and it was decided to procure consultation services in order to increase the internal capacity. The need for inclusion of Scope 3 GHG emissions was also assessed and it was decided to include all Scope 3 categories starting from 2020. During the quarterly ELT reviews the GHG emission reduction targets were also revised and a critical decision to include these targets in the KPI's of COO's of each site is agreed upon.

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Operating Officer (COO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Sustainability committee	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Safety, Health, Environment and Quality committee	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Energy manager	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Environmental, Health, and Safety manager	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Environment/ Sustainability manager	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly

C1.2a

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

The Board of Directors, our supreme governing body, supervises performance on the sustainability priorities at Kordsa.

The Kordsa Executive Leadership Team (ELT) is chaired by the CEO and consists of Deputy General Managers and Directors (COOs) of each site. ELT is responsible for plant operations and sets targets for sustainability focus areas determined biennially within the company and revises them when necessary.

ELT meets quarterly. ELT reviews the outcomes of the monthly Business Process Review (BPR) conducted with the participation of each Kordsa site's Directors covering all business functions. Business objectives, targets and performance against these targets are reviewed as part of BPR meetings at which current status of each Kordsa site is discussed. These reviews include strategic and emerging aspect covering topics like safety, health and environment, sustainability roadmap progress, production, supply chain, human resources, sales etc.

Under the ELT, there is Sustainability Committee (SC) to assess and manage climate-related topics. SC is led by the Brand & Corporate Communication and Sustainability Manager, who reports directly to the CEO and ensures coordination between departments and senior management to achieve relevant goals.

The Sustainability Committee consists of Global Project Leader, Global SHE Manager, Brand & Corporate Communication and Sustainability Manager, Legal Manager, Global Finance Manager, Global Quality Manager, Supply Chain Manager, Lean Manufacturing Manager, Market Development Manager, SHE Managers of all sites, Energy Committee Leaders from all sites. All sustainability-related issues, including climate-related ones such as energy consumption, GHG emission performance, monitoring and assuring the achievement of targets, and management of risks and opportunities are managed by the SC.

Climate-related issues assessment and management is also conducted by Safety, Health and Environment Committee at a lower level which reports to the Maintenance and Utility Group Manager monthly covering mainly energy consumption at each Kordsa facility, progress against targets, and improvement measures that can be included to improve energy efficiency and manage GHG emissions effectively. The Maintenance and Utility Group Manager then reports these monthly Committee meeting outcomes at the monthly BPR meetings. The outcomes of the BPR meetings are discussed at the quarterly ELT meetings, where the ultimate decisions and necessary actions about climate change related issues are made.

In addition to the committees and Executive Leadership Team that takes active management role regarding climate-related issues, also manager level individuals are responsible of managing operational actions as part of their roles such as Energy, Safety, Health and Environment (SHE) and Sustainability Managers both on local and global level.

Monthly meetings are held among each site's Energy Managers as well as the Global Energy Manager to discuss energy management activities, status and outcomes as well as potential improvement measures to be implemented. As part of SHE activities, all operational and safety related climate change issues are discussed at weekly Site Safety Manager Meetings which is held with the participation of Global SHE Manager periodically once a month. During these meetings, climate-related impacts that may affect the business continuity at site level is among the main discussion topics.

While the above-mentioned Committees and Individuals have active assessment and management role regarding climate-related issues, there is also a standard risk management process as well as business continuity management process which are under the sole leadership of the CFO and the CEO respectively. Climate-related issues are reviewed under all risk types with different dimensions such as loss of revenue under financial risks, loss of market share due to inability to meet customer expectations under strategic risks, production and supply chain disruption under production risks, inability to meet regulatory requirements under compliance risks, loss of brand credibility as well as customers due to inaction on climate change under brand image risks and all environmental aspects under environment, security, health and safety risks.

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 management of climate-related issues are included in the KPI's of key decision-makers.

C1.3a

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

Entitled to incentive	Type of incentive	Activity inventivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	The CEO is ultimately responsible of all climate-related issues on a company level. Achievement of business objectives including meeting emission reduction targets, OPEX optimization due to energy reduction etc. Any improvement measures that are proposed by the operational team and approved by the CEO (under ELT) will affect the Company Scorecard, meaning it will have positive impact. As a result of achievement of before-mentioned measures, the CEO fulfils his/her targets and becomes entitled to a monetary reward in the form of an enhanced salary and a bonus.
Chief Operating Officer (COO)	Monetary reward	Emissions reduction target	The COO is ultimately responsible of all climate-related issues on a site level. Achievement of business objectives including emission reduction targets, OPEX optimization due to energy reduction etc. Each site COO has a target to contribute to Kordsa's overall GHG reduction target, which is 2.5 % reduction of Scope 1 & 2 GHG emissions with respect to the previous year. This target is also included in their KPI's. If they meet or exceed this target, they become entitled to a monetary reward in the form of an enhanced salary and a bonus.
Other, please specify (Brand & Corporate Communication and Sustainability Manager)	Monetary reward	Emissions reduction target	Kordsa has a global level Sustainability Roadmap consisting of the Company's medium and long-term sustainability targets and commitments including GHG emissions management, responsible use of raw materials, recycling targets, supply chain sustainability assessment, awareness raising activities on climate-related issues. The Brand & Corporate Communication and Sustainability Manager has individual targets in achieving each target in the Sustainability Roadmap. As a result of realization of these targets, Brand & Corporate Communication and Sustainability Manager receives a monetary reward.
All employees	Monetary reward	Efficiency project	Kordsa monitors its performance through progress against annually set targets. All employees are encouraged to share their innovative ideas that can contribute and lead to the achievement of these annual targets. When the Company meets with annually set targets, this affects the Company scorecard positively and therefore results in a monetary award for all employees in the form of an additional bonus. In addition to the performance related monetary reward, Kordsa has a program called Kordsa All Stars. It fosters energy efficiency projects. All employees are entitled to a monetary reward if their project offer is deemed worthy. In 2019, a total of 92 applications were received globally, 35 of which have been announced as winners and deemed their monetary rewards.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	1	Kordsa sets annual corporate targets including climate related aspects such as energy and emission efficiency as part of its short-term business objectives
Medium-term	1	5	Mid-term and relatively larger commitments/projects are managed with a dedicated CAPEX X+ 5 budget. This budget includes investments or initiatives to be realized as part of improving climate-related performance as well as risk and opportunity management.
Long-term	5	35	Kordsa also has long-term strategic plan on sustainability and climate-related issues in line with the overall company objectives. The long-term business objectives are set starting from a CAPEX X+5 horizon.

C2.1b

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

The impact level of any risk and opportunity on our business, is determined by the financial and non-financial evaluation criteria. The activities of Kordsa are taken into account in terms of external and internal contexts when the areas in terms of which risk impact will be evaluated (e.g. financial, reputation, people, business continuity, legal and environment) and the qualitative and quantitative indicators for risk assessment criteria are determined; the expectations and needs of the external and internal stakeholders are taken into consideration when forming the risk assessment framework. We identify impact level of the risk or opportunity to be substantive (medium impact or higher) if:

a) **Finance:** Within one-year period more than 0.5% deviation from the budgeted EBITDA (For 2019 this ratio corresponds to 660,000 USD), or

b) **Company Reputation:** Short-term campaign in the national media, regional long-term campaign in against the company or a request from the local media to make a detailed explanation and call for public lighting,

Damage to relations with stakeholders, which could lead to cancellation of important contracts (sales, investment, business partnership),

Medium-term loss of a small number of customers (maximum 3) with an effect of 500 million USD or less on the profitability of the company, or

c) **People:** A small number of minor injuries requiring first aid treatment

A few staff members from some units leave,,

5-10% negative change in employee satisfaction survey in comparison with the previous period,

Staff turnover rate is between 5%-7%, or

d) **Business Continuity:** Between 4 hours and 2 days business interruption at a production line, or

e) **Legal:** Local restrictions / low amount penalties (e.g. penalties of less than 500,000 USD), or

f) **Environment:** Sudden and / or gradually accumulating environmental damage affecting the areas nearest to the plant (e.g. environmental pollution up to 1 km from site limits)

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
Kordsa and its entities operate in a highly competitive industry with a broad geographical presence. Given the dynamics of the industry in different markets along with the strategic initiatives of the Company, elements of different risks are inherent covering the whole value chain. Kordsa has a Standard Operating Procedure (SOP) for Enterprise Risk Management. This SOP is based on various Corporate and Risk Governance standards developed over the last 15 years. Some of these are: COSO framework, AS / NZS 4360 and ISO31000. CFO is the leader for all risk management related activities. Kordsa's risk management process consists of risk identification, prioritization (analysis and evaluation), control, reporting and monitoring sub-processes. These processes aim to prevent the situations or mitigate their effects that may prevent Kordsa from reaching its objectives by ensuring that risks are identified, assessed and appropriately addressed. Creating risk register is one of the basic steps in the risk management process. In order to develop a "Risk Register", the risks of Kordsa must be defined. In risk identification, the risk is basically expressed as including three components; event, cause and result. Identified risks are prioritized according to their importance. Therefore, it is ensured that time and resources are transferred to primary topics for operations. Kordsa sets a level of risk tolerance to prioritize the risks and classifies the risks according to their probable effects that may occur at that level. While prioritizing risks, all risks are evaluated according to impact and likelihood criteria. The impact level is determined by the financial and non-financial evaluation criteria. The effect levels are related to the tolerance levels of Kordsa. Kordsa's risk likelihood scale, risk impact scale and risk heat map demonstrating the criticality categorization are reviewed and approved by the Executive Leadership Team. A residual risk level score is the multiplication of the likelihood and impact values determined by taking existing controls into account Risks are assessed throughout the entire value chain stages, including direct operations, upstream and downstream. While performing risk assessments time horizons covered start from 1 years (short-term) up to 35 years (Long term) which also gives us a chance to assess the long-term effects of climate change. If the outcome of a risk event is related to more than one heading (e.g. financial, reputation, people, business continuity, legal and environment) on the impact scale, the impact value in the heading with the highest effect as the relevant risk exposure value is taken into consideration. Both the risk impact scale and likelihood scale includes 5 degrees, which are as follows: 1. Very low 2. Low 3. Medium 4. High 5. Very high A residual risk level score is the multiplication of the likelihood and impact values determined by taking existing controls into account. The complementary dimension of the organization's risk appetite is to define set of multipliers (from 1x1 to 5x5) correspond to the area of unacceptable risk level. Risk heat map is composed of 4-level grouping; 1. Low (1-2) 2. Medium (3-6) 3. High (7-12) 4. Critical (13-25) As part of the Global Risk Management structure, Kordsa identifies internal/external business risks, including climate-related risks, through yearly workshops and brainstorming sessions held with function leaders both on company and asset level. For prioritizing risks; Kordsa should identify the workshop participants for enterprise risk prioritization. The Enterprise Risk Management Specialist (ERMS) has the primary responsibility in organizing and ensuring the participation of the following group members: - Early Detection of Risk Committee (EDRC) - Enterprise Risk Management Committee (ERMC) - Key entity / site / unit managers The risks and relevant risk mitigating actions are followed up for any updates, in monthly basis. While doing so, both top down and bottom up approaches are effectively utilized. While determining the relative significance of climate-related risks in relation to other risks, afore-mentioned 4 risk prioritization groups are used and climate-related risks with "High" and "Critical" overall score in the risk Prioritization Table is managed promptly Risk appetite helps to properly define the importance and acceptable levels of risks and provides basis to decide whether an action will be applied or not. Main risk actions are; avoid, accept, reduce, share and transfer the risk. Risk monitoring responsibilities are distributed in accordance with the prioritization level of the risks. All risks of each entity is reviewed monthly with the entity management in details. While prioritizing climate-related risks and aiming to create and capitalize on opportunities, Kordsa manages compliance risks and operational risks promptly. As for all the corporate risks, the ones that have a critical and high overall risk score are prioritized in terms of risk action planning. Example of how this process is applied to a climate-related transition risk: Risk 1, which is given under Section 2.3a of this report was assessed as follows: This risk is the introduction of an ETS within the scope of Turkish MRV, which will result in some financial liability as we may need to purchase emission allowances and/or reduce our GHG emissions within the scope of this regulation. After this risk was identified, it was prioritized during the enterprise risk prioritization workshop, which was held with the function leaders both on company and asset level. During this assessment although impact of this risk was scored medium (3), the likelihood was scored as very high (5), which resulted in an overall score of 15 (critical risk). After this risk was scored as critical, main risk action is decided. Our action to manage this risk was reducing the effects and accepting the rest of the liability that comes with this risk. Example of a climate-related physical risk management: Acute physical risks pose a substantive financial impact if their frequency and severity levels increase. For example, in our Thailand, Indonesia and Turkey facilities, due to their location, they can be exposed to flooding risks, where our facility in Brazil faces the risk of electricity shortages due to the grid's dependency on hydropower in years of extreme drought. Details of financial impacts and how this risk is managed can be found under Risk 4 in Section 2.3a of this report. The impact of this risk was scored as High (4) and the likelihood is scored as medium (3), this risk has an overall score of 12, which puts it under High category in the Risk Heat Map.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	RELEVANCE: Operating in wide range of geographies, Kordsa is an energy and emission intensive company. Therefore, the company is directly affected by current as well as emerging regulations covering climate-related issues such as energy usage and GHG emissions reporting and reduction targets. Compliance measures to these types of regulations can result in an increase of operational costs. EXAMPLE: Kordsa is under reporting obligation as part of "The Regulation on Monitoring of GHG Emissions" which came into force in Turkey in 2014. According to this regulation, facilities operating in emissions intensive sectors must monitor their emissions and annually report the verified emissions to the Ministry of Environment and Urbanisation (MoEU). Kordsa has been reporting its emissions from Izmit Facility fully compliant with the requirements. As mentioned in the rationale, non-compliance with this regulation can result in increased operational cost. In order to manage this risk, consultancy service is received from a competent party and external verification is obtained in line with the requirements. As this risk is not assessed to have substantive impacts, it is not reported under section 2.3a of this report.
Emerging regulation	Relevant, always included	RELEVANCE: As part of the corporate-wide risk assessment, emerging regulations-related risks are also assessed covering all operational locations. For example, in Turkey, there is a process on initiation of a carbon pricing mechanism either in the form of an emissions trading scheme or a carbon tax. EXAMPLE: Operating in an emission intensive sector, Kordsa's Izmit site is currently reporting its stationary emissions to the MoEU. In the case of an implementation of a carbon pricing mechanism, this can pose a risk for Kordsa either as an increased operational cost or a fine in cases if noncompliance occurs. In order to avoid the later from happening, Kordsa takes active measures to improve its emissions performance through a dedicated team. In light of the Paris agreement GHG monitoring, reporting and trading schemes can also be implemented in other countries of our operation. Risk 1 under section 2.3a of this report shows in detail how this risk is assessed and managed.
Technology	Relevant, always included	RELEVANCE: Kordsa defines energy efficiency and optimum use of raw materials as one of the main climate-related risk management activities. In cases of inaction, Kordsa can be subjected to an increased operational cost due to increasing energy and raw material costs. EXAMPLE: In order to optimize operational cost, stay competitive and provide new products while minimizing the environmental impact, implementation of innovative and clean technologies as well as low carbon machinery is realized through dedicated budgets on short-term (annual), mid-term and long-term. For example, in the reporting period, 2% of the revenue was dedicated to R&D projects. These R&D projects help us stay ahead of our competition. One of the risks that were identified under technology is the increasing demand of reducing the rolling resistance (RR) of tires. As our customers constantly work to reduce the RR, producing one of the main components of a tire if we don't work to make our product technologically better, we may lose our customers. This issue is both assessed as a risk and an opportunity, because the more technologically advanced our products, the more chance we have to increase our sales. Please see Risk 2 and Opportunity 3 under sections 2.3a and 2.4a respectively.
Legal	Relevant, always included	RELEVANCE: Our processes are not extremely carbon intensive like cement industry, fossil fuel power plants or oil and gas industry. Therefore, currently our possibility of facing climate-related litigation claims is very low. Legal impacts are one of the 6 impact categories that are identified under Kordsa's SOP for Enterprise Risk Management. Kordsa monitors the development of litigation in all areas and geographies relevant to the company. In relation to regulatory risks, Kordsa takes into account legal aspects concerning the implications of its activities, including those related to climate change. However, these risks are evaluated under current and emerging regulation risk-types.
Market	Relevant, always included	RELEVANCE: Kordsa and its entities operate in a highly competitive industry with a broad geographical presence. Therefore, as part of Kordsa Global Risk Management process, Market risks are identified as one of main risk types. EXAMPLE: Market risks mainly includes risks affecting Kordsa's market share and customer relationship management. As the Market drives the economic indicators of the company and the competition, any change occurring as a result of megatrends or changing customer preference due to Kordsa's inaction to meet enhanced expectations on low carbon products, will have a significant impact on both the revenue and therefore the profitability. Risk 3 under section 2.3a is an example of how changing customer behaviour is assessed to be a risk with substantive financial impacts on our company. This risk is managed by investing in sustainability of our company and also investing in R&D projects to meet the customer expectations.
Reputation	Relevant, always included	RELEVANCE: Company reputation is one of the 6 main impact categories assessed under Kordsa's SOP for Enterprise Risk Management. Kordsa always considers the best interest of all of its stakeholders. Any risk occurring as a result of bad reputational incidents is assessed as part of company reputation risks. EXAMPLE: As Kordsa is a global industry leader, offering products to a wide range of sectors, we are expected to act proactively on climate change related challenges. Moreover, 28.89% of Kordsa's shares are traded publicly on BORSA Istanbul, and therefore any incidents about climate-related issues (i.e. inaction to curb GHG emissions or noncompliance with emissions reporting regulations) causing bad reputation can result in decreased share prices. As part of inclusion of this risk in the assessment, Kordsa's Investor Relations and Corporate Communication Department is working towards meeting expectations of investors and other stakeholders with regards to climate change. Risk 3 under section 2.3a is an example of how changing customer behaviour is assessed to be a risk with substantive financial impacts on our company. This risk is both a market risk and a reputational risk which is managed by investing in sustainability of our company and also investing in R&D projects to meet the customer expectations.
Acute physical	Relevant, always included	RELEVANCE: Climate-related acute physical risks like storms, floods, extreme weather conditions and their impacts both on Kordsa's direct operations (production) and indirect operations (mainly supply chain) are considered as part of Kordsa's climate related risk assessments. EXAMPLE: While the impact of acute physical risks can cause disruption in our facilities and cause damage, they can also cause disruption on our supply chain. As we operate in 5 countries in very different geographies, each Kordsa site individually assesses acute as well as chronic physical risks that may be caused by climate change covering our direct operations. As for the indirect operations, diversification of suppliers' method is used to always have an alternative supplier in cases of disruption. As an example of acute physical risk, our Izmit facility in Turkey is located next to a riverbed. Therefore, in cases of extreme precipitation, this may cause flooding and can damage our facility or cause production disruption. In order to prevent this risk, we have developed Flood Emergency Plan to be applied on all Kordsa sites globally. Risk 4 under section 2.3a of this report is an example of how acute physical risks are assessed and managed in Kordsa.
Chronic physical	Relevant, always included	RELEVANCE: If not well managed, climate change is expected to cause drastic chronic physical impacts. It is important for Kordsa to understand chronic trends that may impact our facilities globally over time. Chronic physical conditions such as increased temperature and humidity are factored in climate-related risk assessment because processes and the product quality, hence the profitability could be directly affected by these changes. EXAMPLE: At yarn production process line, indoor climate control is important, because the dipping solution is sensitive to particles in the air as well as humidity level and temperature. Therefore, we implement a climate control management system to maintain the process indoor ambient conditions at optimum levels. However, if mean temperatures rise and humidity levels change accordingly, this may cause our climate control management system to malfunction according to the severity of climate conditions, the break response time to restart our control system may be extended, causing production disruption and therefore revenue loss. In order to effectively manage this risk, we periodically do the maintenance and checks on all control systems. Risk 5 under section 2.3a of this report is an example of how this risk is assessed to have a substantive impact and how these impacts are managed.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description
Among 5 countries Kordsa has direct operations in, Turkey is the only country where Kordsa is obligated to monitor its stationary GHG emissions resulting from Izmit Facility and report the verified results to the Ministry of Environment and Urbanisation (MoEU) on an annual basis according to the Regulation on Monitoring GHG emissions which came into force in 2014. This regulation was an adoption of the EU Monitoring, Reporting and Verification of GHG Emissions (MRV) which is the basis of the EU Emissions Trading Scheme (EU ETS) where the emission intensive sectors are given an emission cap to control and reduce their emissions. As Turkey is following a similar path, there is a very high probability that additional requirements will be implemented in the short to medium term. Also Partnership for Market Readiness (PMR) Program was launched by the World Bank in Turkey to assist the country in her fight against climate change through the use of market based instruments. The PMR program supports capacity building on carbon pricing instruments and lays out design options and a road map toward the implementation of an appropriate carbon pricing mechanism. Recently an ETS simulation study was also performed under the PMR project. All these progress and active efforts show that there will be ETS and/or carbon tax in Turkey and this will increase our operating costs. Moreover, over the medium-long term, other countries that we operate in are very likely to introduce GHG reporting obligations. These may have financial and legal impacts for Kordsa in case of non-compliance.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1734390

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The potential financial impact figure was estimated based on the 2019 average EU ETS allowance price for the primary markets published by EEX on “EEX EUA Primary Auction Spot Report-2019” (€ 24.58 per t CO2 which equals to 27.53 USD). In 2019 the CO2 emissions from the stationary combustion units that are present in three of our facilities namely Izmit-Turkey, Indonesia and Chattanooga US, were around 105.000 tons. For our facility in İzmit this figure is around 47.000 tons of CO2. In a recent ETS simulation study published under the PMR Project in Turkey, scenarios included capping the emissions at 80%. The simulation also included a free allocation of 50% of the allowances. Which means 50% of the allowances will be auctioned. This results in a total liability of 60% of our GHG emissions. For our Turkish facility only, this means we will probably need to invest in initiatives to lower our GHG emissions or we will need to face a financial burden of about 776,346 USD. (47,000 tCO2 *0.6 *$27.53) If an MRV and ETS system is to be implemented in Indonesia and US, then our financial liability raises up to 1,734,390 USD (105,000 tCO2 *0.6 *$27.53) The financial impact figures are calculated by multiplying the 60% of our estimated scope 1 GHG emissions from stationary combustion by the unit price per ton of CO2.

Cost of response to risk
360000

Description of response and explanation of cost calculation
Measures taken to manage and prevent this risk includes consultancy and verification fees for GHG emissions reporting (MRV) as well as CDP reporting advisory. We have also invested in compressors and drier machines to reduce natural gas consumption which consequently reduces GHG emissions. The cost of response includes the cost of this investment and the total fees paid for consultancy and verification services during the reporting year.

Comment

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Technology	Substitution of existing products and services with lower emissions options

Primary potential financial impact
Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
According to the developments in the tire production industry, one of the main challenges that our customers face is reducing the rolling resistance. They are facing strict regulations and customer expectations on this subject because reducing the rolling resistance directly effects the fuel consumption of the vehicles which effects the GHG emissions. Facing this challenge, as the producer of one of the main components of tires, our customers expect us to reduce the product weight significantly in order to reduce overall weight of their tires. If we are unable to respond to this expectation by means of technological advancements, we may start losing some of our customers which are tire manufacturers. Tire reinforcement product sales comprise 82% of our global revenues.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
74286456

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
We have estimated a 10% loss in our business coming from our tire reinforcement product sales, which results in an 8.2% loss in our annual revenue. For the reporting year our global revenue is 905,932,389 USD 8.2% of which equals to 74,286,456 USD.

Cost of response to risk
165000

Description of response and explanation of cost calculation
In order to manage this risk, we have ongoing R&D projects which focus on reducing the weight of our products without compromising the strength of the fibre. In the reporting year, there were 8 active R&D projects on reducing the Rolling resistance of tires, the cost of these R&D projects was approximately 165,000 USD.

Comment

Identifier
Risk 3

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

Risk type & Primary climate-related risk driver

Reputation	Shifts in consumer preferences

Primary potential financial impact
Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Defined as one of the main risk categories in Kordsa Global Risk Management process, Brand Image/Reputational risks are evaluated with utmost importance. Disclosed by the World Economic Forum's Global Risk Report 2019 as the top two global risk in terms of both likelihood and impact, "failure of climate change mitigation and adaptation" is the most significant risk humankind faces today. Based on this reality, awareness raising activities and increasing demand from all stakeholders on climate change management may result in reduced interest in Kordsa's products, if Kordsa is to take no action towards combatting climate change. This will result in a revenue loss in line with decreased sales. Kordsa's main customers are the leading tire manufacturers and due to rapidly rising climate commitments, they tend to get more ambitious with their expectations from suppliers and their products. 2 of our main tire producer customers invite Kordsa to report to CDP Supply Chain programme, and in medium term, they may set a threshold performance score as a condition to collaborate with certain suppliers such as ourselves.

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)
9059324

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
As the defined type of financial impact is defined as decreased revenue due to changing consumer preferences, Kordsa assumes a loss of 1% of its global revenue due to decreased sales will result in a substantive financial impact. The estimated figure is calculated based on Kordsa's 2019 revenue (905.9 million USD). So, the figure is calculated as 9,059,324 USD.

Cost of response to risk
67340

Description of response and explanation of cost calculation
In worst case scenario, this risk is defined as having potential to cause substantive financial impact for Kordsa. However, Kordsa implements vigorous measures both in terms of managing climate change-related impacts and mitigate them, and takes an active approach by communicating its climate-related performance on various leading platforms such as UN Global Compact, CDP, Ecovadis, sustainability reporting, EIRIS ESG rating through BIST Sustainability Index as well as active involvements as a member in leading NGOs and associations such as Turkish Business Council on Sustainable Development (SKD) and TUSIAD. Moreover, Kordsa dedicates a CAPEX to improve energy efficiency in its operations. The cost of management for this risk represents the total cost of reporting, advisory and membership fees paid in 2019 as part of Kordsa's effort to monitor, enhance and communicate its effort to remain as a responsible company.

Comment

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Kordsa's production facility in Izmit (KTR), Turkey is located next to a river and is therefore in the boundary of a river flood basin. Although not directly due to a precipitation related flood, the facility was exposed to flood related disruption in production in 2018. This incident was caused by the opening of nearby dam flood gates to release the access water to maintain the dam operations at optimum level. However, in line with climate projections, it is expected that severe weather events will become more frequent (including extreme precipitation). Therefore, this facility is under the risk of production disruption due to increased likelihood of flooding. Kordsa also has facilities in Indonesia and Thailand which are under the risk of extreme precipitation and massive floods. Our facility in Brazil faces the risk of electricity shortages due to the grid's dependency on hydropower in years of extreme drought.

Time horizon
Short-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)
9059324

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The financial impact was determined from potential impact of 1% revenue loss due to production disruption. While calculating the potential financial impact, we used 2019 realized revenue (905.9 million USD).

Cost of response to risk
816821

Description of response and explanation of cost calculation
In 2018, we experienced a temporary flooding incident at the KTR production facility resulting in disruption in our Line 1 production process. Our first response to managing this risk was to develop a flood emergency plans and protect our assets and avoid production disruption. This outcome was also reflected in Kordsa Business Contingency Plans. Moreover, our cost to respond to this incident was to maintain the L1 equipment as any potential disruption to this process line affects the quality of polymer used as raw material, and causing maintenance needs to recover the process. However, the most effective method used as a response to this risk is to insure our production units for acute physical effects of climate change including flooding. The cost of response reported includes the annual insurance premiums and maintenance costs detailed above.

Comment

Identifier
Risk 5

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Rising mean temperatures

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Nylon yarn is one of Kordsa's main products. It's production requires certain indoor ambient conditions to meet the desired quality properties; mean temperature and humidity level. As the climate change scenarios foresee a rise of mean temperature, this poses 2 risks for Kordsa both of which will result in decreased revenue. The first risk will be declining product quality if the certain climate conditions cannot be provided by the Climate Control System in place resulting in decreased sales. The second risk will be production disruption if the mean temperature rises beyond acceptable limits for our Climate Control System to handle. Temperature levels higher than average causes Climate Control System to malfunction and "the break response time" for the system to reboot gets longer as the temperature gets higher.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
905932

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
As the defined type of financial impact is defined as decreased revenue due to either decrease in sales in line with affected product quality or increased operational costs due to maintaining or replacing existing Climate Control System to avoid production disruption, Kordsa assumes a loss of 0.1% of its global revenue due to decreased sales will result in a substantive financial impact. The estimated figure is calculated based on Kordsa's 2019 revenue (905.9 million USD). So, the figure calculated is approximately 905,932 USD.

Cost of response to risk
3900

Description of response and explanation of cost calculation
Management method for now only includes the effective operation of the existing Climate Control System through periodic maintenance. The cost of management provided includes the maintenance fees paid in the reporting period.

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.

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of recycling

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
As part of yarn production (one of our 3 main product groups along with Single end core and greige fabric), we have a by-product called "Nylon 6.6" (NY66) chips which have a potential to be used in the engineering industry. Therefore, there is an opportunity for us to find ways to further process this material to become a raw material for the industry. This opportunity has multiple benefits as reprocessing N66 chips not only helps us reduce our waste generation but also helps us implement the basis of a circular economy by supplying the side-product of our production process as a raw material to the engineering industry, resulting in an additional source of revenue.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
7400000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The financial impact figure provided represent the realized annual savings gained via implementation of a reprocessed chip machinery. Through this process, we are able to generate an additional 7.4 Million USD revenue annually

Cost to realize opportunity
2000000

Strategy to realize opportunity and explanation of cost calculation
As described in the explanation of financial impact figure column, our strategy to capitalize on this opportunity was to invest in a technology (machinery) to be able to reprocess NY66 chips to be sold as a raw material to the engineering industry. Cost to realize this opportunity is the total cost of all of the investment made for this project, including cost of the reprocess chip machinery & project's R&D budget. The financial impact figure given is an annual figure, whereas the given cost to realize the opportunity is a one-time cost.

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
Climate change and related impacts are becoming on the prioritized agenda of private sector, investors and customers representing the community. As the awareness is raising and the climate change-related impacts are becoming more visual, there is a shift in customer preferences towards more sustainable/low-carbon products with lower environmental impact. If well managed and met, the shift in customer preferences pose an opportunity for Kordsa to develop matching products and gain competitive advantage while increasing its share on the market. At Kordsa we are constantly working on R&D projects to advance our existing products and to create new products for emerging markets. One of our main areas of research is to reduce the weight of our products for tire manufacturers, which will in turn reduce the rolling resistance of their products. In order to do this, we invest in R&D projects that research reducing the weight without compromising the durability of our products. The tire cords are usually covered with rubber underlay and overlay during manufacturing of tires. If we are able to produce a product that doesn't require one of these rubber coatings, this will also reduce the total weight of the tire.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
9059324

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Potential financial impact figure represents the revenue generated in 2019 from sales of innovative products developed through R&D projects and commercialized by Kordsa namely TWIXTRA and CAPMAX. This figure is around 1% of Kordsa's global revenue in reporting period, therefore the magnitude of impact is considered to be high.

Cost to realize opportunity
165000

Strategy to realize opportunity and explanation of cost calculation
Placing utmost importance with R&D activities and seeing those as one of the main contributors to business success to sustain operations in a rapidly changing environment, Kordsa dedicates an annual budget to develop products with better performance parameters and to a maximum extend low carbon/energy efficient/ eco-friendly. Strategy to realize the above-mentioned opportunity, Kordsa has dedicated a budget for all of its R&D projects. In the reporting period, a budget of around 165,000 USD was dedicated for 8 R&D projects on ireducing rolling resistance. The strategy to realize this opportunity is also helping us manage Risk 2 given under section 2.3a of this report.

Comment

Identifier
Opp3

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 through access to new and emerging markets

Company-specific description
At Kordsa we are constantly working on R&D projects to advance our existing products and to create new products for emerging markets. Our Composite Technologies Center Of Excellence serves as one of the very few integrated manufacturing centers of the world. At Composite Technologies Center of Excellence, we develop innovative intermediary products primarily for aerospace and automotive as well as sports, maritime industries and industrial applications. These R&D activities mainly focus on reducing the weight of the final product, which in turn reduces the fuel consumption and GHG emissions. As the GHG emission regulations are becoming stricter throughout the world, these new products will be more attractive for the buyers. The innovative and unique intermediate products and applications for composites technologies developed by Kordsa, presents an opportunity to increase our revenues through access to new and emerging markets. Some of our innovative projects include: • Developing a Prepreg to be used in composite trunk lids for public transport vehicles, which will reduce the weight of the vehicle, which in turn will reduce the fuel consumption • Developing a Hot-Melt Prepreg with self-bonding properties with metals for the production of metal composite hybrid components through compression molding. Since the prepreg material under development cures outside the autoclave, the energy consumption will be reduced, and thanks to the use of low-density prepreg instead of metal parts, carbon emissions will be lower in parallel to the reduced fuel consumption. In parallel with its strategy of increasing its global market share and expanding its product range, Kordsa acquired two major players of the composite industry in the US, Fabric Development Inc. and Textile Products Inc. as well as San Diego-based Advanced Honeycomb Technologies in 2018, and in the reporting year we have also acquired AXIOM. With these new acquisitions, Kordsa took a major step towards reinforcing its position in the North America.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
6750000

Potential financial impact figure – maximum (currency)
13500000

Explanation of financial impact figure
As a result of these investments and R&D activities, in the long-term we are expecting a 5% to 10% increase in our revenues coming from the sales of our composite products. Kordsa's revenue from the sales of our composite products was 135 million USD. Therefore, the min potential financial impact figure represents the 5% of the Composite Sales revenue, whereas the max. Financial impact figure represents 10% of the revenue that was generated in 2019 through sales of our innovative composite products.

Cost to realize opportunity
2120000

Strategy to realize opportunity and explanation of cost calculation
In order to realize this opportunity we are constantly investing on R&D. Our R&D budget for composite products in the year 2019 was 2.12 Million USD.

Comment

C3. Business Strategy

C3.1

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

C3.1a

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

C3.1b

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

Climate-related scenarios and models applied	Details
Nationally determined contributions (NDCs)	Kordsa operates in 5 countries all of which developed Nationally Determined Contribution (NDC) in line with the Paris Agreement. Kordsa evaluates all relevant NDCs to have a clear indication of expected emissions performance/reduction requirements on a national level. On another level, although we don't have any production facilities in Europe and Japan, we have very important customers in those regions, and therefore the NDCs of those regions are also included in our climate-related scenario analysis. As we identify our risks and opportunities in short-medium and long-term time horizons, we apply the same time horizons when assessing the climate-related scenarios. In 2020 we have also started working on getting a Science Based Target, therefore we will also include IEA B2DS scenario in the upcoming years to determine our climate related strategies. As a matter of fact we have already adopted an emission reduction target which is in line with IEA B2DS Scenario. We aim to reduce our Gross Global Scope 1 and Scope 2 GHG emissions by 17.5% by the year 2025. This target was set in 2019 and our base year for this target is 2018. As an example, in Kordsa's Headquarter location, Turkey, the Government intends (INDC) to reduce the Business as Usual emissions by 21% until 2030. This is not interpreted as an ambitious contribution but in 2023, countries are expected to revise their plans and the level of ambition can be increased. Therefore, while adapting the (I)NDC scenario related outcomes to its strategy, Kordsa aims to achieve the best emissions performance where physically and financially feasible. As a result of the scenario-analysis and identifying the need to perform beyond national targets, Kordsa is conducting feasibility analysis on existing production lines and aim to optimize them maximize efforts to be in line with global combat against climate change and global warming. As part of this strategy, R&D projects are given a high priority. Among the 101 patents applied so far, 60 of them were related with energy/raw material reduction efforts, where 7 of them were related to eco-friendly products and 12 of them being low carbon product or process related applications.

C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	As the awareness is raising & the climate change-related impacts are becoming more visual, there is a shift in customer preferences towards more sustainable/ low-carbon products. As a strategic decision influenced by climate-related risks & opportunities, we are constantly working on R&D projects to advance our existing products & to create new products for emerging markets. Our Composite Technologies Center of Excellence (CTCE) serves as one of the very few integrated manufacturing centers of the world. At CTCE, we develop innovative intermediary products primarily for aerospace & automotive as well as sports, maritime industries & industrial applications. These R&D activities mainly focus on reducing the weight of the final product, which in turn reduces the fuel consumption and GHG emissions. As the GHG emission regulations are becoming stricter throughout the world, these new products will be more attractive for the buyers. Time horizons covered: Short-medium and long term CASE STUDY: 3 of Kordsa's innovative & environmentally friendly products developed to achieve low-carbon performance both during production & end-use phase have benefited from climate-related expectations of our customers. These products are; TWIXTRA: virtually the lightest hybrid cord product in the world, allowing the tire to be produced with fewer raw materials & lighter weight tires allow for reduced fuel consumption CAPMAX: is a cap ply product that can be applied directly without the need for rubber coating at the tire manufacturing unit. By eliminating the need for rubber coating, Capmax® reduces the total rubber content of the tire, which reduces costs, rolling resistance & fuel consumption. E-GLASS PREPREG: In an ongoing collaboration with Ford Otosan, we are working to reduce the weight of the steel spring system that is present in HGVs. E-GLASS PREPREG was developed as a result of this project in 2019. This innovative sheet spring reduces the weight of the vehicle, hence reducing fuel consumption & GHG emissions. The realized total revenue from these 3 products constituted 1% of Kordsa's global revenue in 2019. The magnitude of this financial impact is considered to be medium & is expected to increase in the medium term following the commercialization of new low-carbon products. When e-glass prepreg is commercialized in 2020, its share in our revenues will be higher.
Supply chain and/or value chain	Yes	As a result of our continuous risk assessment covering our supply chain, we have identified a risk with an impact leading to disruption of our operations. Together with the incident trends around the globe regarding different sectors' vulnerability to supply chain disruptions, we are aware that if we don't maintain a sustainable supply chain, we are faced with a risk to our business continuity. Time horizons covered: Short-medium and long term A case-study of most important strategic decisions (medium & long-term): For example, one of our raw material is plastic, deriving from fossil fuels, therefore our plastic polymer suppliers are subjected to be impacted from climate change related transition risks. Expanding this example to all our strategic raw materials and assets, the potential impact is greater. In order to effectively manage supply chain related risks, we have developed a Sustainability Supplier Assessment system through which, we assess top 10 raw material as well as strategic machinery and equipment suppliers on a global scale based on economic, social and SHE aspects such as energy and emissions management. This assessment system was implemented in 2018. The magnitude of this strategic impact is considered to be high as sustainable supply chain is a critical element of our business success.
Investment in R&D	Yes	Kordsa considers climate-related need to invest in R&D as an opportunity to create new markets and extend the presence on the existing market. In order to capitalize on this opportunity, Kordsa dedicates an annual budget to R&D activities. Time horizons covered: Short-medium and long term A case-study of most important strategic decisions (short-term): In the reporting period, Kordsa invested around 11.6 Million USDin R&D activities to develop low carbon products with lower environmental impact. The magnitude of impact that this area has on our business is considered to be medium.
Operations	Yes	Climate-related physical risks have already impacted our operations. Over a decade ago, our Thailand production facility experienced a severe flooding event, causing substantive damage to our assets and resulted in a production disruption for over a month. Similar event with much lower magnitude took place in our Izmit- Turkey production facility in the reporting period, causing a temporary disruption to our production. Not only physical climate risks pose damage to our assets and result in additional CAPEX, but also they increase our OPEX through maintenance and testing costs. Time horizons covered: Short-medium and long term A case-study of most important strategic decisions (short-term): One of Kordsa's main product is nylon yarn, production of which requires certain indoor ambient conditions to meet the desired quality properties; mean temperature and humidity level. As the climate change scenarios foresee a rise of mean temperature, this poses 2 risks for Kordsa both of which will result in decreased revenue. The first risk will be declining product quality if the certain climate conditions cannot be provided by the Climate Control System in place resulting in decreased sales. The second risk will be production disruption if the mean temperature rises beyond acceptable limits for our Climate Control System to handle. Temperature levels higher than average causes Climate Control System to malfunction and "the break response time" for the system to reboot gets longer as the temperature gets higher As a strategic decision influenced by this risk we are giving utmost importance to effective operation of the existing climagte control system through periodic maintenance. In the reporting period the maintenance costs were 3,900 USD.

C3.1e

(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Assets Liabilities	REVENUES: Our financial planning process recognizes the climate-related risks and opportunities. In terms of risks, our net revenue is decreased as a result of increasing operational as well as capital expenses as a result of increasing raw material and energy prices. This has a direct impact on our profitability. Time horizon covered: Short-Medium and Long-term A case study of how climate-related opportunities have influenced our financial planning (short-term): Our revenue is increased as a result of 2 new innovative and environmentally friendly products developed to achieve low-carbon performance both during production and end-usage phases have benefited from climate-related expectations of our customers and end-users. These products are; (a) TWIXTRA: virtually the lightest hybrid cord product in the world and achieved expected sales volumes, allowing the tire to be produced with fewer raw materials and lighter weight tires allow for reduced fuel consumption, and (b) CAPMAX: is a cap ply product that can be applied directly without the need for rubber coating at the tire manufacturing unit. By eliminating the need for rubber coating, Capmax® reduces the total rubber content of the tire, which translates into a cost advantage, as well as contributing to a reduction in rolling resistance and fuel consumption. The realized total revenue from these 2 products constituted 1% of Kordsa's global revenue in 2019. The magnitude of this financial impact is considered to be low-medium. This opportunity has also impacted our medium- and long-term financial planning as we are constantly investing on R&D to improve our low-carbon product portfolio. DIRECT COSTS: Our direct costs planning takes the climate-related risks into account as we are already experiencing price increase on especially fossil fuel derived raw materials. As there is a consistent and increasing trend to divest from fossil fuel intensive sectors, we expect the prices of raw materials will become higher. Time horizon covered: Medium to long-term INDIRECT COSTS: Our indirect cost planning process takes the climate-related risks into account as we are already experiencing energy price increase due to climate-change related taxes and trading obligations. As there is a consistent and increasing trend to divest from fossil fuel intensive sectors, we expect the prices will become higher. Time horizon covered: Medium to long-term A case study of how climate-related risks and opportunities have influenced our financial planning (medium-term): In order to introduce climate change mitigation and adaptation efforts, many countries have introduced CO2 emissions trading or pricing systems. In one of the countries we operate (Turkey), we are currently monitoring and reporting our CO2 emissions to the national authorities (the Ministry of environment and Urbanisation). Turkey is also in the process of assessing the right mechanism to price CO2 emissions, and simulations on an Emission Trading System similar to EU-ETS are currently being performed under World Bank funded Partnership for Market Readiness Program. As we are already included in Turkish MRV, implementation of an ETS will have a considerable impact on our Turkish operations in the mid-term. This impact is foreseen to be around 1.74 Million USD. CAPITAL EXPENDITURES: As both the water and energy prices are affected from climate- related root causes, the potential/forecasted increase in our OPEX intensifies our CAPEX to maintain the costs at a feasible level. Time horizon covered: Short-medium and long-term. A case study of how climate-related risks and opportunities have influenced our financial planning (short-term): A recent investment which can be categorized as a CAPEX that is influenced by climate-related risks is investment in a new LEED Gold certified CTCE R&D building in Istanbul. CAPITAL ALLOCATION: Capital allocation has also been influenced by climate related risks and opportunities. As a result of our risk assessment we have a dedicated R&D and energy efficiency budget. Time horizons covered: Short and Mid-term A case study of how climate-related risks and opportunities have influenced our financial planning (short-term): In the reporting year, Kordsa Izmit plant has spent around 28,000 USD for energy efficiency projects from our allocated CAPEX. ASSETS: Especially climate related physical risks have already impacted some of our facilities, namely Thailand and Turkey production facilities. As a result of a flooding event took place in both locations, we have experienced damage to our facilities, causing temporary disruption to production increasing capital expenditure as well as operating costs. We consider the impact so far to be low-medium, with a likelihood of an increase over the medium to long-term. Also, acute and chronic physical effects of climate change may result in damaging our assets which influenced our long-term financial planning. Time horizons covered: Medium to long-term LIABILITIES: Lenders as well as insurers consider ESG risks and opportunities while determining our liabilities. Due to its location (by a river flood plain) our Izmit production facility has experienced insurance cost increase in the recent years. We consider the magnitude of impact to be low. Moreover, as a mandatory reporter to the Turkish Ministry of environment and Urbanisation's Regulation on Monitoring GHG Emissions, we may potentially have a future liability if the Country is to introduce a GHG emissions pricing mechanism. Although our GHG emissions intensity is not as high as most of the other mandatory reporters under the same Regulation, this will still be an addition of another low magnitude impact in the future. Time horizons covered: Medium to long-term

C3.1f

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

Kordsa first initiated its Safety Health and Environmental (SHE) Standard back in 2008. In line with Kordsa's business objectives and strategy as well as recognizing the agile business environment and megatrends, the SHE standard was fully revised in 2016 to include climate change and GHG emissions, related verification and reporting standards as well as biodiversity aspects.

Kordsa also established its Sustainability Task Force (Committee) with participation from responsibles on manager and specialist level who are the most active group to assess and manage Kordsa's sustainability performance via implementing the Sustainability Road Map which has a 5-year lifespan and was updated based on annual progress. The outcomes of the Sustainability Task Force activities were reported to the Executive Leadership Team (ELT – a Board Level Committee) on a quarterly basis by the Global SHE & Sustainability Manager. By doing so, we make sure the ELT is kept up to date on Kordsa's progress as well as sustainability-related megatrends, so they are always well equipped to maintain Kordsa Sustainability Road Map consistent with the overall business objectives and strategy. As the primary climate-related commitment we make, we set a target to reduce our GHG emissions intensity per unit of production by 1% annually.

In 2019, after a structural change Brand & Communication and Sustainability Manager were given the responsibility of completing the first action plan and creating the basis of the new 5-10 years sustainability roadmap of Kordsa.

Climate-related issues affecting our direct operations are mainly focused on compliance with related regulations, energy - GHG emissions - raw material consumption performance together with maintaining our resilience against physical climate-related risks. In order to achieve all, we dedicate an OPEX for continuous improvement on energy efficiency, as well as CAPEX on an annual basis to minimize the negative (and substantive) impact while capitalizing on opportunities. Every year, our energy OPEX targets are 2% lower than the previous year. We strive to achieve this target through projects financed by our annual CAPEX. We develop and modify our machinery to consume less energy, less raw materials and create less waste.

Climate-related issues affecting our supply chain are investigated as part of company-wide Global Risk Assessment process. As the most substantial business decisions made during the reporting period, we have developed a Sustainability Supplier Assessment Process, in order to ensure the resilience of our supply chain (top 10 strategic suppliers) against sustainability related issues. The Assessment consists of a 3 separate lists of questions covering economic, social and SHE aspects. SHE checklist includes comprehensive questions on climate-related issues such as energy management, renewable energy usage/generation, low-carbon products, and raw material consumption as well as reduction initiatives. As a result of this assessment process, we not only identify the "as is" situation of our strategic raw material and machinery & equipment and be able to identify areas where we can support our suppliers sustain their operations and particularly become resilient to climate-related risks.

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

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

Target reference number
Abs 1

Year target was set
2019

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 1+2 (location-based)

Base year
2018

Covered emissions in base year (metric tons CO2e)
436891.3

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
100

Target year
2025

Targeted reduction from base year (%)
17.5

Covered emissions in target year (metric tons CO2e) [auto-calculated]
360435.3225

Covered emissions in reporting year (metric tons CO2e)
423686.76

% of target achieved [auto-calculated]
17.2707751987083

Target status in reporting year
New

Is this a science-based target?
Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)
The target covers all our gross-global Scope1 and Scope 2 GHG emissions. We are planning to submit our commitment letter to SBTi within 2020. This target is in set to be in line with the well below 2 degrees scenario. We target a reduction of 17.5 % from our gross-global Scope1 and Scope 2 GHG emissions, over a period of 7 years, which translates to 2.50 % reduction per year on average. The target is also checked using the target setting tool of SBTi, which resulted in the same reduction figure to be in line with the IEA WB2C using the absolute contraction approach.

Target reference number
Abs 2

Year target was set
2019

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 1+2 (location-based)

Base year
2018

Covered emissions in base year (metric tons CO2e)
436891.3

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
100

Target year
2034

Targeted reduction from base year (%)
33.6

Covered emissions in target year (metric tons CO2e) [auto-calculated]
290095.8232

Covered emissions in reporting year (metric tons CO2e)
423686.76

% of target achieved [auto-calculated]
8.99519541599389

Target status in reporting year
New

Is this a science-based target?
No, but we are reporting another target that is science-based

Please explain (including target coverage)
The target covers all our gross-global Scope1 and Scope 2 GHG emissions. We target a reduction of 33.6% from our gross-global Scope1 and Scope 2 GHG emissions, over a period of 16 years, which translates to 2.10 % reduction per year on average.

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

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
2019

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

Target type: energy carrier
Electricity

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)
Percentage

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
0

Target year
2021

Figure or percentage in target year
5

Figure or percentage in reporting year
0

% of target achieved [auto-calculated]
0

Target status in reporting year
New

Is this target part of an emissions target?
Abs1

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain (including target coverage)
This target covers all of our operations. We have a target of purchasing 5% of the electricity used in our facilities from renewable sources by the year 2021. This target is also part of our emission reduction targets Abs 1 and Abs 2 because we see it as a way to achieve our targets.

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	
To be implemented*	0	0
Implementation commenced*	3	1286.71
Implemented*	6	877.78
Not to be implemented	0	

C4.3b

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

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
779.16

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
151042

Investment required (unit currency – as specified in C0.4)
161279

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
A total of 5 emissions reduction initiatives were implemented in Turkey and Thailand as part of this initiative category chosen, achieving annual electricity savings equal to 1,683,130 kWh. The payback period and iestimated lifetime are given as average figures.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)
98.62

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
13369

Investment required (unit currency – as specified in C0.4)
5294

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
An emission reduction initiative which optimizes the heating needs of one section of the plant, saving 533,750 kWh of natural gas.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Kordsa makes detailed annual budgets including a dedicated budget for continuous implementation of energy efficiency projects. Each Site's Energy Manager presents the feasible potential efficiency projects to the Global Chief Operating Officer who has the authority to approve project budgets up to 5% of the annual revenue. In the reporting period, we have dedicated a total budget of over 3 Million USD for climate and water-related reduction initiatives.
Dedicated budget for low-carbon product R&D	Kordsa prioritizes R&D investment as a natural consequence of its "we reinforce life" approach. Accordingly, a dedicated budget for the R&D of low-carbon and eco-friendly products is approved on an annual basis. In the reporting period, Kordsa dedicated 2% of its revenue to R&D projects.

C4.5

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

Yes

C4.5a

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

Level of aggregation
Group of products

Description of product/Group of products
2 of Kordsa's main innovative and environmentally friendly products developed to achieve low-carbon performance both during production and end-usage phases have benefited from climate related expectations of our customers and end-users. These products are; (a) TWIXTRA: virtually the lightest hybrid cord product in the world and achieved expected sales volumes, allowing the tire to be produced with fewer raw materials and lighter weight tires allow for reduced fuel consumption, and (b) CAPMAX: is a cap ply product that can be applied directly without the need for rubber coating at the tire manufacturing unit. By eliminating the need for rubber coating, Capmax® reduces the total rubber content of the tire, which translates into a cost advantage, as well as contributing to a reduction in rolling resistance and fuel consumption

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (The GHG Protocol)

% revenue from low carbon product(s) in the reporting year
1

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
The realized total revenue from these 2 products constituted 1% of Kordsa's global revenue in 2019

Level of aggregation
Product

Description of product/Group of products
E-Glass Prepreg: We have an ongoing collaboration with Ford Otosan where we are working together to reduce the weight of the steel spring system that is present in heavy groundl vehicles. As a result of this project we have developed E-GLASS PREPREG in the reporting year. This innovative sheet springreduces the weight of the vehicle, hence reducing fuel consumption and GHG emissions.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (The GHG Protocol)

% revenue from low carbon product(s) in the reporting year
0

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
The realized total revenue from this product constituted 0.00002 % of Kordsa's global revenue in 2019. Since the ORS limits the decimal digits the % revenue is given as 0. When this product is commercialized its share in our revenue will be higher.

Level of aggregation
Group of products

Description of product/Group of products
Construction reinforcement: KraTos Micro and Kratos Macro. KraTos™ Synthetic Fiber Reinforcement is widely used in all kinds of infrastructure and superstructure projects as a shrinkage reinforcement material to prevent early-age cracking. These products require much less energy than the traditional alternative during production.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (The GHG Protocol)

% revenue from low carbon product(s) in the reporting year
0.3

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
The realized total revenue from these 2 products constituted 0.3% of Kordsa's global revenue in 2019.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
128175.84

Comment
We have discovered some inconsistencies in our boundaries and calculations; therefore, we have revised our baseline as 2018 and also we have re-calculated our GHG emissions for 2018.

Scope 2 (location-based)

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
307105.93

Comment
We have discovered some inconsistencies in our boundaries and calculations; therefore, we have revised our baseline as 2018 and also we have re-calculated our GHG emissions for 2018.

Scope 2 (market-based)

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
0

Comment
We do not calculate market-based emissions to report in terms of Scope 2.

C5.2

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

IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Emissions & Generation Resource Integrated Database (eGRID)

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
128875.99

Start date
January 1 2019

End date
December 31 2019

Comment
The Scope 1 emissions figure includes emissions from 12 sites in 5 countries. The sources of emissions are stationary combustion of fossil fuels, mobile combustion in vehicles that are controlled by our company and fugitive gases from our cooling equipment and fire extinguishers. We have revised the methodology this year, therefore we have also revised our base year to be 2018.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
128175.84

Start date
January 1 2018

End date
December 31 2018

Comment
As we have revised our calculation methodology to be fully in line with GHG protocol we have also recalculated our 2018 GHG emissions. 2018 is also selected to be our base year for reporting.

C6.2

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

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

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

Comment
We are reporting a location-based Scope 2 emissions figure resulting from the use of electricity from the grid.

C6.3

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

Reporting year

Scope 2, location-based
294806.85

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

Start date
January 1 2019

End date
December 31 2019

Comment
We are reporting only location-based Scope 2 emissions resulting from electricity purchased and consumed from the grid for 12 plants in 5 countries. In the reporting period we have included 4 new plants in our organizational boundary. The emission factors for the electricity consumed from the grid for each country are taken from the IEA's 2019 figures.

Past year 1

Scope 2, location-based
307105.93

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

Start date
January 1 2018

End date
December 31 2018

Comment
We are reporting only location-based Scope 2 emissions resulting from electricity purchased and consumed from the grid for 8 plants in 5 countries. The figures are revised because we have found some inconsistencies in data. 2018 is also selected as our base year. The consumption figures in the previous years were not assessed to be reliable. The emission factors for the electricity consumed from the grid for each country are taken from the IEA's 2018 publication "CO2 emissions from fuel combustion"

C6.4

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

C6.5

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

Purchased goods and services

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Purchased goods and services are relevant to our operations, however we didn't perform a full Scope 3 study yet. In 2020 we are planning to assess and include all relevant Scope 3 GHG emissions in our calculations.

Capital goods

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Capital goods may be relevant for our operations depending on the investments made on capital goods in the reporting year. However, we didn't perform a full Scope 3 study yet. In 2020 we are planning to assess and include all relevant Scope 3 GHG emissions in our calculations

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

Evaluation status
Relevant, calculated

Metric tonnes CO2e
94136.29

Emissions calculation methodology
The GHG emissions resulting from the fuel and energy related activities are calculated using Well to tank emission factors published by DEFRA (Conversion Factors 2019 Full Set for Advanced Users). The fossil fuel consumption figures already compiled for Scope 1 calculations are multiplied with WTT emission factors in order to calculate WTT GHG emissions of the fossil fuels used. To calculate the T&D losses and WTT emissions for the electricity used in the Kordsa facilities worldwide, the consumption figures are multiplied by the Scope 3 electricity emission factors published by IEA.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
99.71

Please explain
The electricity and natural gas consumption figures are taken from the invoices of suppliers. GHG emissions resulting from these 2 emission sources make up 99.71% of the emissions from this category.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
6724.54

Emissions calculation methodology
The GHG emissions resulting from the transportation of our products are reported under this category. We collected the average distance, average load and number of shipment data from 7 sites for the goods that are delivered to our main tire customers. For ground transportation we have multiplied the km data with number of shipments and used emission factors that are published by DEFRA to calculate the GHG emissions. All the trucks that have an average load over 10 tons are assumed to be 100% laden, and the ones below 10 tones are assumed to be 50% laden. For rail-air and sea transportation we have used the ton.km data multiplied by number of shipments. We have also used DEFRA EFs for these transportation activities. All the transportation services that are purchased by KORDSA are reported under this category as per the GHG protocol Scope 3 standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
This category only includes the transportation services that are purchased for our main tire customers, in the coming years we will revise these calculations to include all our transportation activities.

Waste generated in operations

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Waste generated in operations is a relevant source of Scope 3 GHG emissions for our operations, however, we didn’t perform a full Scope 3 study yet. In 2020 we are planning to assess and include all relevant Scope 3 GHG emissions in our calculations

Business travel

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Business travel is a relevant source of Scope 3 GHG emissions for our operations, however, we didn’t perform a full Scope 3 study yet. In 2020 we are planning to assess and include all relevant Scope 3 GHG emissions in our calculations

Employee commuting

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Employee commuting can be a relevant source of Scope 3 GHG emissions for our operations, however, we didn't perform a full Scope 3 study yet. In 2020 we are planning to assess and include all relevant Scope 3 GHG emissions in our calculations.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We don't have any upstream leased assets that needs to be reported under this category. All of the GHG emissions from our leased assets are reported under Scope 1 and Scope 2 GHG emissions as we use operational control approach to compile our activity data.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
701.14

Emissions calculation methodology
The GHG emissions resulting from the transportation of our products are reported under this category. We collected the average distance, average load and number of shipment data from 7 sites for the goods that are delivered to our main tire customers. For ground transportation we have multiplied the km data with number of shipments and used emission factors that are published by DEFRA to calculate the GHG emissions. All the trucks that have an average load over 10 tons are assumed to be 100% laden, and the ones below 10 tones are assumed to be 50% laden. For rail-air and sea transportation we have used the ton.km data multiplied by number of shipments. We have also used DEFRA EFs for these transportation activities. All the transportation services that are purchased by our customers are reported under this category as per the GHG protocol Scope 3 standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
This category includes the transportation services that are purchased by our main tire customers, in the coming years we will revise these calculations to include all our transportation activities.

Processing of sold products

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Processing of sold products can be a relevant source of Scope 3 GHG emissions for our operations, however, we didn't perform a full Scope 3 study yet. In 2020 we are planning to assess and include all relevant Scope 3 GHG emissions in our calculations.

Use of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
All our products are intermediate products and need further processing (such as tire manufacturing) to be used. Therefore, this category is not applicable to our products.

End of life treatment of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
All our products are intermediate products and need further processing (such as tire manufacturing) to be used. Therefore, this category is not applicable to our products.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We do not have any leased assets as part of our downstream operations. If this is to change, we will evaluate this source and based on its significance, we will consider including this category in our calculations.

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Kordsa does not have any franchises, therefore this category is not relevant for us.

Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We have not made any investments in the reporting period, therefore this category is not relevant for us.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
No additional Scope 3 categories identified.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
No additional Scope 3 categories identified.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
No

C6.10

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

Intensity figure
0.0004677

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
423682.84

Metric denominator
unit total revenue

Metric denominator: Unit total
905932389

Scope 2 figure used
Location-based

% change from previous year
11.9

Direction of change
Decreased

Reason for change
Kordsa global revenue has increased by 10.48% between 2018 and 2019 while the gross Scope 1 and 2 emissions have decreased by 2.66%. One of the reasons for the gross emissions decrease is the emission reduction initiatives implemented during the reporting period, which resulted in an 877.79 t CO2 emissions reduction. In the reporting period there were also acquisitions which resulted in an increase of 2,499.99 tons of CO2 emissions. On the other hand, the main reason for this decrease is the decrease in production especially in our Indonesia facility.

Intensity figure
94.21

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
423682.84

Metric denominator
full time equivalent (FTE) employee

Metric denominator: Unit total
4497

Scope 2 figure used
Location-based

% change from previous year
9.2

Direction of change
Decreased

Reason for change
Kordsa full time employees increased by 7.20% between 2018 and 2019 while the gross Scope 1 and 2 emissions have decreased by 2.66%. One of the reasons for the gross emissions decrease is the emission reduction initiatives implemented during the reporting period, which resulted in a 877.79 t CO2 emissions reduction. In the reporting year there were also acquisitions which resulted in an increase of 2,499.99 tons of CO2 emissions. On the other hand, the main reason for this decrease is the decrease in production especially in our Indonesia facility.

C7. Emissions breakdowns

C7.1

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

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	125402.86	IPCC Fourth Assessment Report (AR4 - 100 year) *Emission factors published by DEFRA and EPA use GWPs from IPCC Fourth Assessment Report (AR4-100 year)*
CH4	124.6	IPCC Fourth Assessment Report (AR4 - 100 year) *Emission factors published by DEFRA and EPA use GWPs from IPCC Fourth Assessment Report (AR4-100 year)*
N2O	78.24	IPCC Fourth Assessment Report (AR4 - 100 year) *Emission factors published by DEFRA and EPA use GWPs from IPCC Fourth Assessment Report (AR4-100 year)*
HFCs	3270.29	IPCC Fifth Assessment Report (AR5 – 100 year) *HFCs are converted to CO2 equivalent using the most recent GWP values published in IPCC Fifth Assessment Report (AR5-100 year)*

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	49179.58
Brazil	6231.94
Indonesia	17538.43
Thailand	7929.3
Turkey	47996.73

C7.3

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

By facility

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
CH / USA	44369.71	35.1128	-85.2476
LH / USA	3552.7	34.81	-79.5231
KBR / Brasil	6231.94	-12.66	-38.3101
IK / Indonesia	17538.43	-6.5019	106.8716
TIK / Thailand	7929.3	14.3321	100.6421
KTR / Turkey	47500.87	40.7665	29.9976
CTCE/ Turkey	495.87	40.9188	29.3153
AXIOM/USA	953.07	33.721894	-117.840237
FDI/USA	59.12	40.444607	-75.350456
TPI/USA	23.72	33.84857	-117.972284
AHT/USA	221.26	33.137597	-117.186076

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
United States of America	41529.47	0	85632.12	0
Brazil	9262.11	0	79163.33	0
Indonesia	134677.92	0	175133.83	0
Thailand	19827.92	0	41919.5	0
Turkey	89509.43	0	194163.62	0

C7.6

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

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
CH / USA	29957.99	0
LH / USA	10328.67	0
KBR / Brazil	9262.11	0
IK / Indonesia	134677.92	0
TIK / Thailand	19827.92	0
KTR / Turkey	88272.92	0
CTCE / Turkey	1236.51	0
AXIOM / USA	495.46	0
FDI / USA	469.41	0
TPI / USA	216.07	0
AHT / USA	61.88	0

C7.9

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

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0.29	Decreased	0	Our previous year gross global Scope 1&2 emissions were 435,281.77 t CO2. Renewable energy is only generated in the solar PV system in our CTCE building in Istanbul. In the reporting year we have generated 54.35 MWh (GHG emissions equivalent: 54.35 MWh x 0.461 tonCO2e/MWh = 25.06 tons CO2e) of renewable energy in this Solar PV system. In the previous year this generation figure was 53.26 MWh (GHG emissions equivalent: 53.26 MWh x 0.465 tonCO2e/MWh = 24.77 tons CO2e). The resulting change in GHG emissions due to change in generated and consumed renewable energy = 24.77 – 25.06 = 0.29 tons CO2e As we have generated slightly more than 2018, we had to purchase less amount from the grid, which resulted in a very minor decrease in our GHG emissions. The decrease of emissions value (%) is calculated as follows: (0.29 tons CO2e/ 435,281.77 tons CO2e) x 100 = 0.00007 % As the ORS limits decimals, the emissions value is entered as 0.
Other emissions reduction activities	877.78	Decreased	0.2	Our previous year gross global Scope 1&2 emissions were 435,281.77 t CO2. As a result of the 6 emissions reduction initiatives implemented in 2019, we achieved 877.78tCO2 emissions reduction. The stated emissions value (percentage) was calculated with the following formula: 877.78 tCO2 / 435,281.77 *100 = 0.20%
Divestment	0	No change	0	We didn't have any divestment during the reporting period.
Acquisitions	2499.99	Increased	0.57	Our previous year gross global Scope 1&2 emissions were 435,281.77 t CO2e. In the reporting period we have included the GHG emissions of our 4 newly acquired companies in USA, namely Textile Production Inc. (TPI), Fabric Development Inc., Advance Honeycomb Technologies (AHT) and AXIOM. The total Scope 1 and Scope 2 GHG emissions of these companies in 2019 were calculated as 2,499.99 tons CO2e. We weren't able to reach reliable data on 2018 consumption figures of these companies, therefore we weren't able to revise our base year emissions to include these companies. Emission value % is calculated by dividing the 2019 GHG emissions of the acquired facilities by 2018 Sc 1+2 GHG emissions. (2,499.99/435,281.77)*100 = 0.57%
Mergers	0	No change	0	We didn't have any mergers during the reporting period.
Change in output	13220.84	Decreased	3.04	Apart from the above-mentioned changes in the reporting period, due to change in output in several of our facilities, especially due to decrease in production in our Indonesia facility, our GHG emissions reduced by 13,220.84 tCO2e emissions when compared to the previous year. Gross global Sc1&2 emissions in 2018: 435,281.77 t CO2 Emission value % is calculated as follows: (13,220.84/435,281.77)*100 = 3.04%
Change in methodology	0	No change	0	In 2019 we have revised our calculation methodology and started using GHG emission factors that are published by DEFRA. However we have also revised the 2018 calculations using the 2018 versions of DEFRA's GHG EFs. Therefore, the methodology is consistent between the two reporting years and the changes in the emissions trends cannot be attributed to the change in methodology.
Change in boundary	0	No change	0	In the reporting year we included the fugitive emissions in our GHG inventory boundary, however we have also revised the 2018 calculations so that the boundary will be consistent between the two reporting years.
Change in physical operating conditions	0	No change	0	There were no changes in physical operating conditions that can be attributed to the change in GHG emissions.
Unidentified	0	No change	0	There are no unidentified changes.
Other	0	No change	0	There are no other changes.

C7.9b

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

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?
More than 5% but less than or equal to 10%

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	624727.81	624727.81
Consumption of purchased or acquired electricity	<Not Applicable>	0	576012.39	576012.39
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	54.34	<Not Applicable>	54.34
Total energy consumption	<Not Applicable>	54.34	1200740.2	1200794.54

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

C8.2c

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

Fuels (excluding feedstocks)
Natural Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
619919.75

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
464938.82

MWh fuel consumed for self-generation of steam
154980.93

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
2.03693

Unit
kg CO2e per m3

Emissions factor source
DEFRA Conversion Factors 2019-Fuels

Comment
Natural gas is used in our facilities for heating and steam generation. For the facilities that are located in USA, we are using the GHG emission factors that are published by the US-EPA. All other facilities are calculated using DEFRA emission factors.

Fuels (excluding feedstocks)
Diesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
3148.51

MWh fuel consumed for self-generation of electricity
287.16

MWh fuel consumed for self-generation of heat
2861.35

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
2.68697

Unit
kg CO2e per liter

Emissions factor source
DEFRA Conversion Factors 2019-Fuels

Comment
Diesel oil is used for electricity generation in generators and it is also used in mobile combustion in our company vehicles.

Fuels (excluding feedstocks)
Motor Gasoline

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1144.24

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
1144.24

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
2.31495

Unit
kg CO2e per liter

Emissions factor source
DEFRA Conversion Factors 2019-Fuels

Comment
Motor gasoline is used in company vehicles (mobile consumption)

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
515.32

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
515.32

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
2936.86

Unit
kg CO2e per metric ton

Emissions factor source
DEFRA Conversion Factors 2019-Fuels

Comment
LPG is used in LPG powered forklifts (mobile combustion).

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	341.5	341.5	54.34	54.34
Heat	464939.04	464939.04	0	0
Steam	154981	154981	0	0
Cooling	0	0	0	0

C9. Additional metrics

C9.1

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

Description
Energy usage

Metric value
576012.39

Metric numerator
Total electricity consumption in MWh

Metric denominator (intensity metric only)
No denominator

% change from previous year
3.92

Direction of change
Decreased

Please explain
Our total electricity consumption in 2018 was 599,491.94 MWh, in 2019 this value dropped to 576,012.39 MWh. This reduction translates into a decrease of 3.92%.

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	No third-party verification or assurance

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
Reasonable assurance

Attach the statement
Kordsa CDP-Verification Template.pdf
Kordsa GHG Verification Report.pdf

Page/ section reference
In the GHG Verification Report (Sera Gazı Doğrulama Raporu) page 2, "Doğrudan Emisyonlar" The verification report is also uploaded in English in CDP Verification template.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
85

C10.1b

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

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Reasonable assurance

Attach the statement
Kordsa CDP-Verification Template.pdf
Kordsa GHG Verification Report.pdf

Page/ section reference
In the GHG Verification Report (Sera Gazı Doğrulama Raporu) page 2, "Enerji Dolaylı Emisyonlar" The verification report is also uploaded in English in CDP Verification template.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
86

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?
No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?
No, but we anticipate being regulated in the next three years

C11.1d

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

Among the countries Kordsa operates in, Turkey is the only country which is in the process of establishing a carbon pricing mechanism. The method is not determined yet but it is expected to be either an emissions trading scheme (similar to EU ETS) or a carbon tax approach.

Recently as a part of the World Bank funded “Partnership for Market Readiness” project, simulations of an ETS system were studied. The results of this study were also published on Turkish Ministry of Environment and Urbanisation website. We anticipate being regulated under the Turkish ETS system until 2023.

KTR Kordsa Izmit production facility in Turkey is currently reporting its stationary emissions on a mandatory basis as part of the Regulation on Monitoring GHG Emissions. We are aware that the introduction of a carbon pricing mechanism in Turkey or any other country that we operate in, will result in future liabilities for us. Therefore, we have identified an internal price on carbon and included this assessment on our risk assessments. We are constantly working on energy efficiency and reducing the GHG emissions that are under the scope of Turkish MRV.

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?
Yes

C11.3a

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

Objective for implementing an internal carbon price
Navigate GHG regulations
Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Identify and seize low-carbon opportunities

GHG Scope
Scope 1

Application
Kordsa Turkey Izmit Facility, intended to be extended to other facilities

Actual price(s) used (Currency /metric ton)
27.53

Variance of price(s) used
No variance in price is considered. Turkey's carbon pricing mechanism is under development and projections will be unreliable.

Type of internal carbon price
Shadow price

Impact & implication
In our Izmit facility, our total Scope 1 GHG emissions that are under the scope of Turkish MRV is 45,009 tons CO2e. In a recent ETS simulation study published under the PMR Project, scenarios included capping the emissions at 80%. The simulation also included a free allocation of 50% of the allowances. This results in a liability of about 60% which is equal to 27,006 tons Based on the 2019 average EU ETS allowance price for the primary markets published by EEX on “EEX EUA Primary Auction Spot Report-2019” (€ 24.58 per t CO2 which equals to 27.53 USD). The amount of our total liability is approximately 743,475 USD. This impact figure has been presented to our Board and is included in our risk assessments. The internal price on carbon is updated every year from the EEX database.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Compliance & onboarding

Details of engagement
Climate change is integrated into supplier evaluation processes

% of suppliers by number
73

% total procurement spend (direct and indirect)
79.5

% of supplier-related Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
Supplier Sustainability Assessment Survey We included the implementation of a more comprehensive sustainability impact assessment in addition to our current processes in 2019. We started to directly integrate the sustainability scores of suppliers to our current assessment system. We invited more than 400 global and local suppliers from five countries in which we operate to participate in the Supplier Sustainability Assessment Survey. The survey that we will continue in 2020 will evaluate the performances of our suppliers on topics of Reporting, Ethics Policies and Practices, Occupational Health and Safety, Human Rights, Supplier Screening Topics, Labor, and Environmental Management (including climate change).

Impact of engagement, including measures of success
We managed to persuade 73% of our global suppliers to participate in the supplier sustainability survey in 2019. The share of the suppliers we could reach in our global raw materials procurement is 79.5%, which excludes the suppliers we get packing, transportation and similar services from. Our global procurement team carries out the purchasing of 90% of the raw materials that all of our plants require. We plan to initiate working on improvements with each supplier starting with the global ones and aim to increase the number of suppliers that we reach. Overall, we measure the success of an impact as our effort to establish and maintain a sustainable supply chain. Therefore, initiation of this assessment process was a success. In the future, we may use this data to calculate and better manage our Scope 3 emissions arising from our immediate supply chain.

Comment

C12.1b

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

Type of engagement
Collaboration & innovation

Details of engagement
Other, please specify (Collaboration on environmentally friendly product development)

% of customers by number
80

% of customer - related Scope 3 emissions as reported in C6.5
74

Portfolio coverage (total or outstanding)
<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement
Tire reinforcement products make up about 85% of our total sales. Safety of a tire requires many qualities to be met. The new technology needs to be tested to prove that it does not restrain any of the safety qualities. This collaboration was born from our common sustainability goals. Customer related Scope 3 emissions % are only calculated for Category 4 and Category 9 Transport related emissions.

Impact of engagement, including measures of success
COKOON is the new environmentally friendly adhesive technology named after the cooperation of Continental and Kordsa with the aim of developing an intermediary product, a dip solution to replace the standard Resorcinol-Formaldehyde-Latex (RFL)-base (which includes highly toxic chemicals) dipping system used since 1930's. Kordsa had been working on this new technology since 2008, Continental also had been working on the development of a new eco-friendly dip technology. Consequently, at a certain stage of development to apply and test the formula on tire; with their open-innovation approach & vision, Kordsa & Continental decided to join forces, share knowledge & make use of the diverse expertise of both parties in replacing the standard & traditional dip system, which contains chemicals which might create health and environmental risks in case of misuse. According to the results of the current development status of COKOON, it is now possible to replace these chemicals by an environmentally friendly solution without sacrificing any safety or performance criteria of tires. COKOON can be used for all standard textile materials used in tires (PET, PA66, PA6, Rayon, Aramid, Hybrid). Our main goal with this project is to change the way business is done in tire manufacturing industry. In order to create awareness, we launched www.cokoon.com website & through this website we informed the whole industry about this technology pool we started, & the technology we have developed. We have opened the details of this patented technology, which took us years to develop, free of charge to everyone who is registered in the pool. We gave the management of this pool to an intellectual property specialist German law-firm called AdVinno. We are also included in this technology pool, where developments regarding to this project will be shared for free together with Conti. As a measure of success, we take the percentage of primary customers engagement. With this project we have reached 80% of our primary customers.

Type of engagement
Collaboration & innovation

Details of engagement
Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number
85

% of customer - related Scope 3 emissions as reported in C6.5
100

Portfolio coverage (total or outstanding)
<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement
85% of our customers by sales volume are tire manufacturers with targets to reduce the rolling resistance of their products, which in turn will reduce the fossil fuel consumption of vehicles and reduce their GHG emissions. Our products are one of the three main components of tires, and in order to reduce the rolling resistance of the final product, our customers also need to have lighter fabrics in their tires. We constantly invest on R&D projects to contribute to the targets of our customers, with the aim of developing products that will reduce the rolling resistance of the final product. We organize innovation days with our customers in order to discuss these R&D projects and to collaborate on development of these innovative products. Customer related Scope 3 emissions % are only calculated for Category 4 and Category 9 Transport related emissions.

Impact of engagement, including measures of success
These engagement activities are seen as a major success, as we are able to reach our main tire customers and share the technologies and developments with them. We are also receiving positive feedback from our customers regarding these innovation and R&D projects. Every year we run innovation meetings to discuss about emission reduction technologies, with approximately % 85 of our customers; both tire manufacturers and composite customers.

C12.1d

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

Kordsa has established a Sustainability Roadmap, laying out the milestones to enable sustainable operations covering a 5-year period. 2019 was the last year of this first roadmap and for each year we included an additional key stakeholder within our engagement activities.

Moreover, as parts of initiatives conducted to engage our sustainability efforts with our value chain, including all key stakeholders, Kordsa annually publishes its Sustainability

Report as part of which, periodic stakeholder engagements are held via one-on-one meetings and workshops in order to regularly update Kordsa's material sustainability topics. This engagement covers our key stakeholder groups which are identified by the Executive Leadership Team during the first Kordsa Sustainability Task Force workshop, are; employees, customers, investors, shareholders. After 2019 review on key stakeholders, we also included local communities.

The engagement activities during 2019 is listed below.
- Sustainability Task Force- Strategy Review Workshop
- Employees / Sustainability Performance Evaluation and Materiality Survey
- Customers / 1 to 1 meetings
- Shareholders and Investors / Direct written and verbal communication channels

Additionally, to be able to maintain active communication with its value chain covering sustainability topics such as climate change and water management, Kordsa actively participates in Business Council on Sustainable Development (BCSD Turkey). Measure of success for value chain engagement covers the continuation of our communication efforts. As a result of our performance disclosure and direct as well as indirect engagements, we continued our success to be in the BIST Sustainability Index (BIST SI). We measure our success on value chain engagements regarding sustainability (including climate-relate) performance via maintaining our position in the BIST SI.

C12.3

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

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support	While Turkey was in the process of preparing the EU Acquis on Monitoring GHG Emissions (MRV) we contributed to the process via providing feedback on proposed Regulation draft.	We have supported the process during the preparation and announcement of the Regulation. Since the Regulation came into force, we have been reporting our emissions within the corresponding scope on an annual basis complying with the requirements.

C12.3f

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

Our Sustainability Task Force (Sustainability Committee) meets quarterly and monitors Kordsa's progress against the 5-year Sustainability Road Map which is compiled following comprehensive preparation and defines the priorities and commitments covering all pillars of sustainability including climate change management. The Sustainability Road Map includes commitments and targets covering all material sustainability issues for Kordsa's direct and indirect operations (including energy and GHG emissions' management) which are determined following a holistic stakeholder engagement.

The outcomes of the quarterly Sustainability Task Force meetings are reported to the Board level Executive Leadership Team to make sure the actions taken, and the targets set are in line with overall corporate objectives. As part of our indirect activities to influence climate-related policy, we actively participate with NGO's and associations such as Business Council on Sustainable Development Working Groups, through which we submit our feedback and recommendations on existing and emerging policies covering sustainability related topics such as low carbon development and energy management.

Managing all activities with the Executive Leadership Team's contribution and approval, we make sure our activities are consistent with our Sustainability Road Map and on a broader level, long-term business objectives. By signing the UN Global Compact in 2014, we commit to implement universal sustainability principles to ensure our actions and activities are consistent with global agenda.

C12.4

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

Publication
In voluntary sustainability report

Status
Underway – previous year attached

Attach the document
sustainabilityreport2018.pdf

Page/Section reference
23-32 and 58-59

Content elements
Governance
Strategy
Emissions figures

Comment

Publication
Other, please specify (Kordsa Web Site)

Status
Complete

Attach the document
Kordsa Website Sustainability-Screenshot.png

Page/Section reference
We publish our CDP report together with other sustainability related metrics on our website. Screenshot of the website is attached. The link of the related page is: https://www.kordsa.com/en/sustainability/detail/emissions-management/103/84/0

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. Signoff

C-FI

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

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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

SC. Supply chain module

SC0.0

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

SC0.1