

Welcome to your CDP Climate Change Questionnaire 2020

C0. Introduction

C0.1

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

Turkcell is a digital operator headquartered in Turkey, serving its customers with its unique portfolio of digital services along with voice, messaging, data and IPTV services on its mobile and fixed networks. It has been listed on the NYSE and the BIST since July 2000 and is the only NYSE-listed company in Turkey.

Turkcell believes in the innovative and transformative power of digitalization. While supporting sustainable industrialization with technology, Turkcell builds its infrastructure considering the future of the climate and the environment and aims to reduce its environmental impact while improving its services. Turkcell creates value by offering technology to the service of life and serves the society by supporting projects that generate social benefits. Turkcell becomes a digital solution partner especially in pandemic. Turkcell supports companies and its employees with its digital solutions developed specifically for the needs of companies in production, education, retail, health, finance, logistics, transportation, tourism and energy sectors and municipalities. Turkcell's Green Informatics and environmental strategy is designed to promote the environmental sustainability of our operations, customers and cities. We are proud to be the first Turkish mobile operator with ISO 50001 (International Standard on Energy Management) and ISO 14064 (International Standard on Greenhouse Gas Accounting and Verification) certifications.

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
Reporting year	January 1, 2019	December 31, 2019	

C0.3

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

Turkey

C0.4

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

TRY

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)	<p>The ultimate decisions on climate change-related issues in Turkcell are taken and executed by the CEO, with the approval of Board of Directors. Turkcell executive management, led by the CEO, acknowledges the reality of climate change and takes mitigative & adaptive precautions by approaching the issue from two aspects: 1) GHG emission calculation, reduction and energy efficiency measures: Climate-related technical issues are evaluated for mitigation and adaptation process by the Energy and Site Products Manager. All proposals from the technical staff are considered for improving energy efficiency and strengthening resilience of our network facilities. The final review for these actions is done by Technology Group/Infrastructure Management Manager and presented to the CEO for approval. 2) All climate change related corporate engagement such as raising public awareness is run by the Corporate Communications Director. All relevant actions are designed, and activities are planned in accordance with Turkcell climate strategy outline and presented to the CEO for approval.</p> <p>An example to climate related decisions taken by the CEO covers our 2050 target. In this context, following our CEO's decision and approval of the Board of</p>

	Directors, Turkcell committed to become a carbon neutral company until the year 2050.
--	---

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p>	<p>Final decisions on climate change related issues in Turkcell are taken and executed by the CEO, with the approval of Board of Directors. The Board of Directors have met 10 times during the reporting year. Turkcell executive management acknowledges the reality of climate change and takes mitigative & adaptive precautions by approaching to the issue from two aspects: 1) GHG emission calculation, reduction and energy efficiency issues, using smart applications Climate and GHG emissions related technical issues are evaluated for mitigation and adaptation process by the Energy and Site Products Manager. All proposals from the technical staff are considered for improving energy efficiency and strengthening resilience of our network facilities. The final review for these actions is done by Technology Group/Infrastructure Management Manager and presented to the CEO for approval. 2) Climate-related stakeholder, corporate engagement and sustainability issues: All climate change related corporate engagement such as raising public and employee awareness or cooperation for climate change projects are run by the Corporate Communication Director. All relevant action is designed, and activities are planned with respect to Turkcell climate strategy outline and presented to the CEO for approval.</p> <p>During the reporting year, Turkcell has initiated a process to establish a Sustainability Committee including Corporate Communications, Administrative Affairs, Human Resources, Network, Corporate Governance, Marketing, Supply Chain, Risk Management, Turkcell Energy, Investor Relations business units, with a purpose of renewing the sustainability strategy in accordance with current risks, opportunities and trends, and to monitor and</p>

		<p>improve sustainability performance. The Sustainability Committee is planned to start its activities in 2020 and meet every 3 months.</p> <p>In addition, the Early Detection of Risk Committee, which was established to identify risks that could impact the existence, development and continuation of the company to take the necessary measures concerning such risks and conduct risk management work, has been providing support to the Board of Directors since 2012. The Committee prepares a risk report every two months and these reports are submitted to the Board of Directors as well as sent to an independent audit company. After the report is submitted, the Board of Directors assesses the identified risks on a regular basis. Climate related issues are interlinked with business continuity risks, strategic risks, market risks, operational risks, legal risks and general risks. Climate related disasters directly affect business continuity. Action plans in this context are prepared in accordance with ISO 22301 international standard on Business Continuity Management.</p>
--	--	--

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Risks Officer (CRO)	Managing climate-related risks and opportunities	More frequently than quarterly
Risk committee	Assessing climate-related risks and opportunities	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).

Climate related risks such as natural disasters or changing consumer preferences are of strategic importance to Turkcell, hence, decisions on those matters are taken at executive

level. For this reason our CEO and the Early Detection of Risk Committee have the highest oversight on those issues.

The Early Detection of Risk Committee, which was established to identify risks that could impact the existence, development and continuation of the Company, to take the necessary measures concerning such risks and conduct risk management work, has been providing support to the Board of Directors since 2012. The Committee prepares a risk report every two months and these reports are submitted to the Board of Directors as well as sent to an independent audit company. After the report is submitted, the Board of Directors assesses the identified risks on a regular basis. Climate related issues are interlinked with business continuity risks, strategic risks, market risks and legal risks. Climate related disasters directly affect business continuity. Action plans in this context are prepared in accordance with ISO 22301 international standard on Business Continuity Management.

Early Detection of Risk Committee is reported by Directors and is positioned at the highest level of corporate hierarchy before the Board of Directors. The Committee is represented at the Board of Directors by the committee chairman.

Turkcell executive management acknowledge the importance of climate change and takes mitigative & adaptive precautions by approaching to the issue from two aspects:

1. GHG emission calculation, reduction and energy efficiency issues: Climate and GHG emissions related technical issues are evaluated for mitigation and adaptation process by the Energy and Site Products Manager. All proposals from the technical staff are considered for improving energy efficiency and strengthening resilience of our network facilities. The final review for these actions is done by Technology Group/Infrastructure Management Manager and presented to the CEO for approval.

2. Climate-related stakeholder, corporate engagement and sustainability issues: All climate change related corporate engagement such as raising public awareness is run by the Corporate Communication Director. All relevant action is designed, and activities are planned with respect to Turkcell climate strategy outline and presented to the CEO for approval.

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	

C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
-----------------------	-------------------	-----------------------	---------

Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	Following the decision of our CEO and the approval of the Board of Directors, Turkcell has committed to become a carbon neutral company by 2050. Similar to other targets of Turkcell, our climate targets are also monitored and incentivized at the CEO level who is also a Board Member of GSMA. Climate change is on top of GSMA agenda.
Energy manager	Non-monetary reward	Energy reduction project	CEO and CXO awards, where the Chief Executive Officer and Deputy Executive Officers show their appreciation of employees creating a difference; patent awards, which Turkcell presents to their Research and Development Engineers.
Other, please specify Energy Committee	Monetary reward	Energy reduction target	Energy efficiency targets, achievements and saving are scored in KPIs of committee members and other relevant teams.
All employees	Non-monetary reward	Emissions reduction project Energy reduction project Efficiency project	There are a range of rewarding schemes at Turkcell. Within the context of “Now This Deserves an Award” project, employees, those who make a difference with innovative ideas on a variety of issues also including solutions to improve energy efficiency and reduce our emissions are honored with recognition.
Other, please specify CSR Manager	Monetary reward	Energy reduction target Behavior change related indicator Company performance against a climate-related sustainability index	Corporate Social Responsibility Team is responsible for sustainability report, CDP report, BIST Sustainability Index disclosures, developing sustainability projects and politics for internalization of sustainability within and without the company. After successful completion of these disclosures they are rewarded with a monetary reward in the form of bonus payments. In 2020, this title also has been changed as CSR, Sustainability and NGO Manager.

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	
Medium-term	1	5	
Long-term	5	10	

C2.1b

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

It is the responsibility of the Enterprise Risk Management team to assess the risks and to report the risk prevention activities to the Early Detection of Risk Committee and to coordinate the risk prevention activities with the directors and group companies in Turkcell. Each Director is responsible for the Enterprise Risk Management activities in their unit. Enterprise Risk Management (ERM) Team carries out the corporate risk management duties together with directors, managers who directly report to the Vice Presidents, and the relevant risk contacts. Turkcell Enterprise Risk Management Team aims to develop an approach, where risk management process is conducted in an integrated manner with the fundamental management processes. While enabling this, a framework associated with the process was identified in accordance with an Enterprise Risk Management procedure as per the COSO ERM framework and ISO 31000 Risk Management standard. Group-wide risks are categorized via establishing a Risk Library and standard risk definitions are created for each category. The risks that may be encountered in the business processes are determined by taking into account the worst-case scenario of each risk identified and included in the Risk Library by the business owners.

Impact of a risk is evaluated in 5 different categories including financial impact, reputation impact, customer satisfaction impact, business continuity and legal impact. Risk level, on the other hand, is measured within a scale of 4, (including low, medium, high and very high) taking into account the likelihood and impact of the risk. Very high-level (Category 4) risks include those require immediate action plans and need to be reported to upper management urgently. High level risks include those need to be reported to the upper management. Medium level risks on the other hand, include those with relatively lower priority and managed at directorship level. Low risks are categorized as acceptable risks. Following the assessment of risk teams and the approval of the Board of Directors, impact threshold values are updated every year taking into account the previous year values, which were set over the revenue figure. Due to competitive confidentiality, impact threshold figures cannot be reported. However, Turkcell considers very high-level risks substantial. As climate related risks have the potential to affect our operations, we consider all climate related risks potentially substantial.

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

Climate-related risk and opportunity determination is made by Enterprise Risk Management (ERM) which identifies, analyzes and assesses any risks and opportunities arising from the processes and activities of the relevant departments. ERM is responsible for defining and compromising framework and methodology, assessing climate-related risks pro-actively and coordinating risk management activities within the framework and reporting the results to the Board of Directors.

As a general risk management practice, risk assessment is carried out by the following mechanisms: Audit Committee, Corporate Governance Committee, Compensation Committee and Early Detection of Risks Committee. Annually prepared risk plans are followed in operational audit activities. The Assessment for Risk and Opportunities considers all factors of regulation, physical change, and the changing demand for company services. Related variables are quantified and modeled within integrated risk management process.

In addition, the Early Detection of Risk Committee, identifies risks that could impact the existence, development and continuation of the Company, to take the necessary measures concerning such risks and conduct risk management work. The Committee prepares a risk report every two months and these reports are submitted to the Board of Directors as well as sent to an independent audit company. After the report is submitted, the Board of Directors assesses the identified risks on a regular basis.

Risk assessment at Turkcell is conducted in 8 different categories including information

security risks, financial risks, business continuity risks, operational risks, market risks, strategic risks, legal risks and general risks. Climate-related risks are covered within business continuity risks, market risks and legal risks. Risks identified and assessed in these categories are registered in risk inventory by function directors.

Risk level is measured within a scale of 4, (including low, medium, high and very high) considering the likelihood and impact of the risk. Very high-level risks include those require immediate action plans and need to be reported to upper management urgently. High level risks include those need to be reported to the upper management. Medium level risks on the other hand, include those with relatively lower priority and managed at directorship level. Low risks are categorized as acceptable risks. High and very high-level risks are updated in risk inventory every two months.

The impact of climate-related natural disasters such as floods, storms or landslides on Turkcell network and ecosystem are analyzed and managed within business continuity management system. As an organization certified with ISO 22301 Business Continuity Management Standard, we are continuously improving our business continuity capacity. Business continuity plans are prepared by taking into consideration the customer's expectations, company policies and legal obligations. They are regularly exercised to guarantee the operation in case of an emergency. Being prepared to natural disasters and avoiding disruptions on our services in such cases is a part of our crisis management plan.

Asset level risks arise from increased risks of climate change related disasters. Terminal Server project has been adopted to maintain operational sustainability in cases such as multi-fiber or equipment failure. The main aim of the project is to enable Turkcell NDC (New Distribution Capability), Main and Midi POP (Point of Presence) points to access relative equipment through console interface or current NMS systems through alternative channels (ADSL, 3G) that do not use Turkcell network sources.

In addition to natural related disasters, we also consider legal risks such as a new regulation affecting energy sector hence our supply chain; as well as market risks such as shifting consumer preferences due to increasing consumer awareness on environmental Impact of goods consumed.

The Climate Strategy Brief contains major steps for how carbon-related risks and opportunities are managed at company and assets level. The non-commercial sensitivities and results of the various elements of our risk and opportunity management process are presented to all relevant stakeholders through our sustainability communications, including our web site and annual Sustainability Report. Hazards cover a wide range of potential including earthquakes, toxic gases, fires etc. Disaster simulations are run every six months.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Not relevant, explanation provided	Regulatory risks are analyzed within the category of legal risks including risks arising from legislative changes and non-compliance with current regulations. Currently there is no regulation in Turkey regarding climate change issues that covers Turkcell's operations. For this reason, current regulations are not considered in our risk assessment. Although, regulations in Turkey require mandatory reporting of GHG emissions as per Measurement, Reporting and Verification (MRV) guidelines which first went into force on April 25, 2012, no Turkcell operation is in the scope of the regulation.
Emerging regulation	Relevant, sometimes included	Emerging regulation risk is analyzed within the category of legal risks including risks arising from legislative changes and non-compliance with current regulations. In this context we continuously analyze potential challenges to our business. Example of an emerging regulation include an upcoming cap and trade system which would cover the supply chain of Turkcell. Turkey is a participant of Partnership for Market Readiness (PMR) Programme. In this context, the Ministry of Environment and Urbanization is currently conducting the preparatory work for a legal basis to an Emissions Trading Scheme (ETS) in Turkey, which would cover all sectors (including the energy generation sector) currently reporting their emissions within the MRV regulation. A probable regulation establishing an ETS, which would cover energy generation sector, could increase the cost of electricity, which would directly affect operational costs of Turkcell.
Technology	Relevant, always included	Technology risks are analyzed within the category of business continuity risks. In this context, we regularly evaluate the potential risks arising from new technologies. Due to increasing regulations on climate change and rising energy costs, businesses are in need of technologies providing energy saving and emission reduction opportunities. Moreover, digitization is expected to affect all parts of the economy over the next decade. New ways doing business, such as remote working, are becoming widely accepted. In this respect Information and communication technologies (ICT) sector provides great potential with digital business solutions such as smart grids driven by cloud systems, smart metering, smart agriculture, video conferencing, and e-health applications. If Turkcell fails to keep up with the technological developments in the sector and fails to provide up-to-date and high-tech solutions to its clients, this may result with

		losing market share to competitors. Apart from a loss of revenue, failure to respond such demand would also impact our reputation.
Legal	Relevant, always included	Legal risk is a vital part of our ERM approach, and we always follow regulations and legislation in accordance with their necessities. All regulative topics which concern our business are always included in our risk procedures. Furthermore, to ensure transparency towards our stakeholders we annually report our environmental performance on our sustainability reports and CDP responses. So far, we haven't received any litigation claims regarding any climate-related issues. But we regularly assess the potential risks to avoid any future claims. An example to the risk of legal conflicts related to climate change could be a claim of failure of taking sufficient measures to reduce our indirect CO2 emissions arising from our electricity consumption. However, we continuously invest in renewable energy generation to meet our electricity need. Meanwhile, as a technology company, Turkcell provides solutions to mitigate GHG emissions rather than contributing to. Hence, we see the possibility of any such risk at a minimal level.
Market	Relevant, always included	Information and communication technologies (ICT) is one of the fastest growing sectors along with increasing need of further infrastructure investments, including new data centers and base stations, those require high amount of electricity and powerful cooling systems. Parallel to these investments, carbon footprint of ICT services and products is also increasing. On the other hand, consumers are becoming increasingly aware of environmental impact of services and products they use, which is triggering an increasing demand of shift towards greener and low carbon solutions. If Turkcell cannot respond to demands from its individual and corporate customers for greener, low carbon and energy efficient services, it can cause less appetite for our services.
Reputation	Relevant, always included	Reputation risks are analyzed within market risk management category, covering risks that may arise due to the competitive environment and sectoral changes. Information and communication technologies (ICT) is one of the fastest growing sectors along with an increasing need of further infrastructure investments, including new data centers and base stations, those require high amount of electricity and powerful cooling systems. Parallel to these investments, carbon footprint of ICT services and products is also increasing. On the other hand, consumers are becoming increasingly aware of environmental impact of services and products they use, which is triggering an increasing demand towards greener and low carbon solutions. If Turkcell cannot respond to demands from its individual and corporate customers for greener, low carbon and energy efficient services, this may cause reputation loss.

Acute physical	Relevant, always included	Acute physical risks are analyzed within business continuity risk management category. Climate related disasters (such as floods, storms and landslides caused by intense precipitation) and extreme temperatures pose an increasing risk to the continuity of our operations. Such risk includes potential damage to our network equipment and property (especially base stations). Climate related disasters also disrupt repair and maintenance operations because of maintenance teams' failure to access the site. To be able to contain those risks, we closely monitor the physical conditions at the locations of our network facilities. In addition to this; we continuously invest in improving the resilience of our facilities.
Chronic physical	Relevant, always included	Chronic physical risks are analyzed within our business continuity risk management category. Turkcell has base stations in all around Turkey, which might be affected by climate related increased temperatures. Higher mean temperatures may result in higher operating costs due to energy expenditures. To ensure continuity of operations and avoid any disruptions resulting from excessive heating of network equipment, our energy consumption will increase parallel to higher cooling demands. In this context, we constantly invest in energy efficiency and renewable energy.

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?

Upstream

Risk type & Primary climate-related risk driver

Emerging regulation
Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

The Ministry of Environment and Urbanization (MEU) is currently conducting the preparatory work for a legal basis for an Emissions Trading Scheme (ETS) in Turkey within the Partnership for Market Readiness Programme of World Bank. In this context the Ministry has conducted the pre-engagements with the sector during 2019. In early 2020, The Ministry has developed a draft Climate Law and a Regulation for ETS and started a consultation phase with the industry. Although ETS regulation is not planned to cover the ICT sector, hence will not create a direct compliance cost for Turkcell, it is expected to cover all sectors currently reporting their emissions within the MRV regulation, including the energy generation sector, which is an essential part of our supply chain. Cost of compliance to the regulation, will impact electricity prices and increase Turkcell's operating costs. Notably, 5-10% of our operational costs are due to purchased energy consumption.

A pricing mechanism on carbon is expected to increase costs on the side of fossil fuel-based electricity producers. We anticipate that those producers will increase their investments on renewable sources. Meanwhile anticipations on a carbon pricing mechanism are also creating an expectation on the side of development of a pricing system for green electricity, where higher prices will be imposed under a tariff.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

10,743,600

Potential financial impact figure – maximum (currency)

21,487,156

Explanation of financial impact figure

Electricity is a major input and cost item for our operation of base stations and data centers. Around 5-10% of Turkcell's operational costs result from purchased energy consumption.

We anticipate an increase on electricity prices for two main reasons:

1-) A 1 to 5 % increase on grid electricity price due to increasing costs of fossil fuel-

based producers

2-) A 5 % percent increase on market-based renewable electricity prices due to an imposed tariff

Based on these two elements, we calculate the minimum impact of this risk based on a 1% increase on grid electricity prices and a 5% increase on market-based renewable electricity unit price. This will create an impact of 10,743,600 TL on our costs.

Our estimation on the maximum impact of the risk, on the other hand is based on a 5% increase on grid electricity price along with a 5% increase on market-based renewable electricity price. Taking into account our projections on the cost of market-based renewable electricity unit price 11.3 TL (2 USD) and location-based electricity we anticipate a 0.1% impact on our revenues originated from increased energy costs as a result of a cap and trade regime in Turkey.

Cost of response to risk

39,776,661

Description of response and explanation of cost calculation

As the first ISO 50001 certified mobile operator of Turkey, Turkcell has been monitoring its energy consumption very closely and shaping its strategy to enable some level of self- sufficiency via renewable energy investments by its subsidiaries. To manage our dependence on energy we are aiming to meet 100% of our energy need from renewable sources by 2030. In this context, we apply solar panel roof installations at our data centers, two of which (Adana and Ankara data centers) became operational during the reporting year. Moreover, Turkcell's subsidiary Turkcell Enerji is aiming to become an energy generation company with a renewable portfolio. Notably, our first renewable (solar) energy plant, became operational at Turkish Republic of Northern Cyprus during the reporting year. We are also implementing projects to reduce energy intensity from all operations. Those efforts include; improving cooling performance of equipment & passive cooling techniques, using more energy efficient equipment in base stations & data centers, and installing solar & wind powered energy generation plants at base stations.

Our cost of response to this risk is calculated over the sum of the costs listed below:

Energy efficiency investments: 30,891,960 TL

Renewable energy investments: 8,884,701 TL

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

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

Primary potential financial impact

Increased capital expenditures

Company-specific description

Extreme weather events such as floods or landslides due to increased precipitation intensity could cause potential damage to Turkcell's network equipment and property. Floods could also negatively affect access to sites for equipment maintenance & repair. As a country located in Mediterranean basin, Turkey is expected to be highly affected by natural disasters due to climate change. Furthermore, geographical conditions, including steep landscape, especially in the east of the country could make access to base stations in remote locations even more challenging in the case of an extreme weather event. Turkcell has the largest network coverage in Turkey with a vast network infrastructure. Ensuring constant maintenance of our facilities is at most importance for the quality and continuity of our operations. In addition, extreme weather events also pose a risk to safety of our maintenance personnel.

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)

21,487,156

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Due to increasing number of extreme weather events and natural disasters our capital costs could be expected to increase.

Since our CAPEX figure is confidential, we are not able to share a calculation based on

this value within this report. Hence we estimated the financial impact of this risk by assuming that it will have a 0,1% impact on our revenue. In this context we made a calculation over our revenue figure for the reporting year (21,487,156,000 TL).

Cost of response to risk

5,798,433

Description of response and explanation of cost calculation

We continuously invest in our infrastructure. Turkcell has the biggest investment rate among all operators in Turkey. In 2019 our operator investments grew by 105.9%, which is almost double the average in the sector. Our 5G and fiber technology investments will further increase the resilience of our infrastructure, as they are mostly installed underground, hence more resistant towards flood and storm risks.

Moreover, Turkcell has a Disaster Network Management System, enabling uninterrupted communication in cases of natural disasters via optimized data flow management. We closely monitor the performance of our network facilities by smart network management systems using artificial intelligence. We have an award-winning Base Station Service Disruption Estimation System. We are also investing in Mobile Base Stations powered by solar energy to ensure business continuity. On the other hand, we are increasing our efforts to minimize human effort on network maintenance by automation systems. To ensure the safety of our maintenance personnel, we constantly improve occupational health and safety procedures by safe working principles and action plans. During the reporting year we evaluated site risks at 1962 base stations.

Our cost of response to this risk is calculated over the sum of the costs listed below:

- Smart Network Management System: 500,000 TL
- Base Station Service Disruption Estimation System: 0 cost
- Disaster Network Management System: 119,262 TL
- Mobile base stations: 5,179,171 TL

Comment

Identifier

Risk 3

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

Increased indirect (operating) costs

Company-specific description

As a country located in Mediterranean Basin Turkey is expected to be highly affected by rising temperatures due to climate change. Rising mean temperatures may increase our operating costs resulting from energy consumption. Higher temperatures require higher cooling demand for our network equipment, which will increase our energy costs. Some of our network facilities, such as our data center in Adana, are located in warmest cities in Turkey, where temperature increases may result with higher cooling demand than other locations.

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)

2,910,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Increasing temperatures resulting from climate change will bring in higher cooling demand especially for our base stations and data centers, which will increase our energy related expenditures. Energy costs constitute a significant part of our operational expenditures (around 5-10 %). Taking into account cooling energy demand constitutes 15-20% of total electricity consumption at data centers and 8-10% at base stations, we expect rising mean temperatures to increase our operational costs. Our studies indicated that our air-conditioner use will increase by 5% per 1°C increase in exterior temperature. In this respect, we estimate the financial impact by using current electricity price (0.634TL/kWh) to be around 2.91 million TL per 1°C increase in mean temperature.

Cost of response to risk

39,776,661.66

Description of response and explanation of cost calculation

As the first ISO 50001 (International Standard on Energy Management) certified mobile operator of Turkey, Turkcell has been monitoring its energy consumption very closely and shaping its strategy to enable some level of self- sufficiency via renewable energy

investments by its subsidiaries. To manage our dependence on energy we are aiming to meet 100% of our energy need from renewable sources by 2030. In this context, we apply solar panel roof installations at our data centers, two of which (Adana and Ankara data centers) became operational during the reporting year. Moreover, Turkcell's subsidiary Turkcell Enerji is aiming to become an energy generation company with a renewable portfolio. Notably, our first renewable (solar) energy plant, became operational at Turkish Republic of Northern Cyprus during the reporting year. We are also implementing projects to reduce energy intensity from all operations. Those efforts include; improving cooling performance of equipment & passive cooling techniques, using more energy efficient equipment in base stations & data centers, and installing solar & wind powered energy generation plants at base stations.

Our cost of response to this risk is calculated over the sum of the costs listed below:

Energy efficiency investments: 30,891,960 TL

Renewable energy investments: 8,884,701.66 TL

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market

Changing customer behavior

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

Information and communication technologies (ICT) is one of the fastest growing sectors along with an increasing need of further infrastructure investments, including new data centers and base stations, those require high amount of electricity and powerful cooling systems. Parallel to these investments, carbon footprint of ICT services and products is also increasing. On the other hand, consumers are becoming increasingly aware of environmental impact of services and products they use, which is triggering an increasing demand towards greener and low carbon solutions. Turkey is becoming increasingly impacted by extreme weather events, hence our clients are becoming more sensitive on climate change and their purchasing decisions are impacted by their rising awareness. If Turkcell cannot respond to demands from its individual and corporate customers for greener, low carbon and energy efficient services, it may result with losing

market share to competitors. Apart from a loss of revenue, failure to respond such demand would also impact our reputation.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

214,871,560

Potential financial impact figure – maximum (currency)

644,614,680

Explanation of financial impact figure

Potential financial impact of losing market share to competitors was calculated over the assumption of an impact between 1-3% on our revenue.

Therefore, we calculate the minimum potential financial impact of this risk over on our 2019 revenue figure based on a 1% impact assumption.

The maximum potential financial impact on the other hand is calculated based on 3% impact on our 2019 revenue figure.

Cost of response to risk

450,200,000

Description of response and explanation of cost calculation

As the first ISO 14064 (International Standard on Greenhouse Gas Accounting and Verification) certified mobile operator in Turkey we have been monitoring our GHG emissions for a long period. We are also disclosing our climate performance regularly through sustainability and CDP reports. In addition to this we continuously invest in reducing our carbon footprint. We have announced that as of 2050 Turkcell is aiming at becoming a carbon neutral company and by 2030 we are planning to meet 100% of our energy demand from renewable resources.

Moreover, we continuously invest in developing new digital service solutions for our clients.

Our cost of response to this risk is calculated over the sum of the costs listed below:

- Corporate communication expenditure for Sustainability and CDP Reporting as well as ISO 14064 certification including third party consulting and verification services: 200,000 TL
- R&D expenditure: Due to confidentiality reasons, we cannot provide an exact figure on this area. Hence, we calculated the cost of response based on an average figure (450,000,000 TL – Based on a range between 400 – 500 million TL)

Comment

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Downstream

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

Company-specific description

Due to increasing regulations on climate change and rising energy costs, businesses are in need of technologies providing energy saving and emission reduction opportunities. Moreover, digitization is expected to affect all parts of the economy over the next decade. New ways doing business such as remote working are becoming widely accepted. In this context, precautions taken with the COVID 19 pandemic could be seen as just a pre-view of the future. Meanwhile, consumers are becoming increasingly aware of environmental impact of services and products they use. Those developments trigger the demand for greener and low carbon solutions. In this respect ICT sector provides great potential with digital business solutions such as smart grids driven by cloud systems, smart metering, smart agriculture, video conferencing, and e-health applications. If Turkcell fails to keep up with the technological developments in the sector and fails to provide up-to-date and high-tech solutions to its clients, this may result with losing market share to competitors. Apart from a loss of revenue, failure to respond such demand would also impact our reputation.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

214,871,560

Potential financial impact figure – maximum (currency)

644,614,680

Explanation of financial impact figure

Potential financial impact of losing market share to competitors was calculated over the assumption of an impact between 1-3% on our revenue.

Therefore, we calculate the minimum potential financial impact of this risk over on our 2019 revenue figure based on a 1% impact assumption.

The maximum potential financial impact on the other hand is calculated based on 3% impact on our 2019 revenue figure.

Cost of response to risk

450,000,000

Description of response and explanation of cost calculation

We continuously invest in developing new digital service solutions and we are growing aggressively in this area. Our digital business solutions grew 44% during the reporting year with a revenue of 1 billion TL. Digital service solutions in total, on the other hand, constitute a major part of our revenue and we aim at significantly increasing this rate in the coming years. With this aim we are constantly investing in R&D. Notably, this year we made 531 patent applications.

Our cost of response to this risk is calculated over the sum of our R&D expenditures on new digital solutions.

Our cost of response to this risk is calculated over the sum of our R&D expenditures for the reporting year: Due to confidentiality reasons, we cannot provide an exact figure on our R&D expenditure. Hence, we calculated the cost of response based on an average figure (450,000,000 TL – Based on a range between 400 – 500 million TL).

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?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Due to increasing regulations on climate change and rising energy costs, businesses are in need of technologies providing energy saving and emission reduction opportunities. In addition, companies are increasingly adopting remote working practices. In this respect, precautions taken within the COVID -19 pandemic period could be seen as a simulation of new ways of doing business. Meanwhile, both individual and corporate consumers are becoming increasingly aware of environmental impact of services and products they use. All these developments trigger the demand for greener and low carbon solutions.

Mobile communication sector provides a great potential for climate change mitigation. According to GSM Association (GSMA)'s Climate Policy document, which was published on July 2020, the sector can generate a positive impact 10 times higher than its total annual emissions, via avoided emissions enabled by mobile communications technologies. In 2018, mobile communications technologies enabled a decrease in 1.44 billion MWh of electricity and gas, and 521 billion liters of fuel, globally. In addition, GeSI Smarter 2030 report indicates that increased use of information and communication technology (ICT) such as modern smart grids driven by cloud systems, smart metering, smart agriculture, video conferencing and e-health applications could cut the projected 2030 global greenhouse gas (GHG) emissions by 12.1 Gigatons carbon dioxide

equivalent (GtCO₂e) and enable 1.4 trillion USD revenue and cost savings.

Turkcell provides digital solutions in many sectors such as transport, energy and agriculture. Some of them include smart metering, fleet monitoring, remote temperature control systems and diesel generator monitoring systems enabling energy and water saving as well as emissions reduction.

Digital service solutions constitute an important market for Turkcell and we are growing aggressively in this area. Our digital business solutions grew 44% during the reporting year with a revenue of 1 billion TL. Digital service solutions in total, on the other hand, constitute a major part of our revenue and we aim to significantly increase its share in the coming years.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,074,357,800

Potential financial impact figure – maximum (currency)

2,148,715,600

Explanation of financial impact figure

Increasing revenue due to use of new services. We calculated the range of potential financial impact of this opportunity over the assumption of 5 to 10% increase in our revenue. In this context we calculated the minimum and maximum financial impact based on our revenue figure for the reporting year.

Cost to realize opportunity

450,000,000

Strategy to realize opportunity and explanation of cost calculation

Turkcell offers and develops new products providing digital solutions which would enable energy and fuel efficiency. For example, with its smart driving application “Kopilot” Turkcell offers the drivers a possibility to monitor and save fuel consumption. In addition to this Turkcell is also providing digital solutions on agriculture. Our recent app Filiz; helps farmers to increase product yield via monitoring different variables on

soil and weather conditions, projecting the amount of water needed and any potential plant diseases.

Turkcell has also participated in Smart City Gaziantep Project and worked collaboratively with Gaziantep Metropolitan Municipality to develop M2M systems to increase efficiency at city level. Investments made so far saved 30 million TL from the Municipalities budget, annually.

With the aim of developing high technology new digital solutions we are constantly investing in R&D. Notably, this year we made 531 patent applications. Due to confidentiality reasons, we cannot provide an exact figure on our R&D expenditure. Hence, we calculated the cost of realizing this opportunity based on an average figure (450,000,000 TL – Based on a range between 400 – 500 million TL).

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Other, please specify

Reduced Operational Cost Through Use of Energy Efficiency Measures

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Opportunity to cut down operational costs and lower energy related emissions by efficiency investments: Turkcell is investing in energy efficiency projects to cut down its emissions and operating costs. Due to high demand of power and cooling of our base stations and data centers energy costs are a major part of our OPEX. In this context we are implementing alternative cooling methods, renewing inefficient equipment and remote monitoring performance and energy consumption at network facilities. As a result of above-mentioned projects, we are aiming to achieve significant savings.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

26,033,260

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

As a result of our energy efficiency investments, we have achieved to save 26,033,260 TL from our energy costs during the reporting year. Our minimum expected annual saving figure for the coming years is equal to this amount. Hence, we calculated the potential impact of this opportunity based on our energy cost savings achieved by energy efficiency investments in 2019.

Cost to realize opportunity

30,891,960

Strategy to realize opportunity and explanation of cost calculation

Electricity need of cooling systems at base stations constitute a major element of our energy consumption. To mobilize our energy efficiency we replaced inefficient rectifiers; applied smart algorithms on radio equipment, implemented passive cooling methods at areas where air conditioning is not needed, replaced inefficient cooling equipment with inverter air conditioners, started using outdoor cabinets to lower cooling needs and applied GPON technology enabling energy efficiency on internet services. In addition to this we are also remote monitoring the performance and energy consumption of facilities, equipment and vehicles.

Our cost of realizing this opportunity was calculated by taking the sum of above-mentioned investments:

- Inverter air conditioners: 4,260,960 TL
- GPON technology:12,500,000 TL
- Smart algorithms on radio equipment: 0 cost
- Passive cooling systems: 718,000 TL
- Replacing inefficient rectifiers: 10,001,000 TL
- Outdoor cabinets: 3,412,000 TL

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Shift toward decentralized energy generation

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Turkcell has the largest coverage network in Turkey with a large number of base stations. Our network facilities demand high amount of energy and powerful cooling systems. As a result of changes in mean temperature, our energy demand is growing further. By investing in renewable energy generation, we are aiming to cut down our energy costs, lower our emissions and make our network facilities less dependent on energy grid.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,140,805

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

As a result of our renewable energy investments we have already saved 1,140,805 TL during the reporting year. Our minimum expected annual saving figure for the coming years is equal to this amount. Hence, we calculated the potential financial impact of this opportunity based on our energy cost savings achieved by renewable energy investments in 2019.

Cost to realize opportunity

8,884,701

Strategy to realize opportunity and explanation of cost calculation

Turkcell is aiming to meet 100 % of its electricity need from renewable sources by 2030. As a part of this goal we are investing in solar and wind energy generation at network facilities. By installing solar panels and wind turbines at our base stations we produced 506 MWh of electricity during the reporting year. We are also investing in solar panel roof installations at our data centers. Two of those (Adana and Ankara data centers) became operational during the reporting year. Turkcell's subsidiary Turkcell Enerji is aiming to become an energy generation company with a renewable portfolio. Notably, our first renewable (solar) energy plant, became operational at Turkish Republic of Northern Cyprus during the reporting year. Solar roof installations at our data centers and our solar plant in Northern Cyprus produced 1090 MWh of electricity during the reporting year.

Our cost of realizing this opportunity was calculated by taking the sum of our renewable energy generation investments during the reporting year: 8,884,701 TL

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Due to increasing regulations on climate change and rising energy costs, businesses are in need of technologies providing energy saving and emission reduction opportunities. In addition, companies are increasingly adopting remote working practices. In this respect, precautions taken within the COVID -19 pandemic period could be seen as a simulation of new ways doing business. Meanwhile consumers are becoming increasingly aware of environmental impact of services and products they use. All these developments trigger the demand for greener and low carbon solutions. Turkcell is already answering such new demands with its large-scale digital service solutions including a variety of products such as video conferencing tools, cloud-based

services, fleet monitoring and remote temperature control systems. We are planning to increase our revenues by making use of rising demand in this area. Digital services already constitute a major part of our revenue and we aim to significantly increase its share in the coming years.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,074,357,800

Potential financial impact figure – maximum (currency)

2,148,715,600

Explanation of financial impact figure

Increasing revenue due to use of new services. We calculated the range of potential financial impact of this opportunity over the assumption of 5 to 10% of increase in our revenue. In this context we calculated the minimum and maximum financial impact based on our revenue figure for the reporting year.

Cost to realize opportunity

450,000,000

Strategy to realize opportunity and explanation of cost calculation

We already offer a number of digital solutions providing emission reduction and energy saving opportunities for businesses and individuals. We continuously invest in R&D to develop new services in this area. In this respect the cost of realizing this opportunity was calculated over the cost of our R&D expenses for development of new digital service solutions during the reporting year: Due to confidentiality reasons, we cannot provide an exact figure on our R&D expenditure. Hence, we calculated the cost of realizing this opportunity based on an average figure (450,000,000 TL – Based on a range between 400 – 500 million TL).

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)	<p>Turkey signed the Paris Climate Accord. The agreement encourages countries to scale up emission reduction activities. Although Turkish Parliament has not ratified the agreement yet; it might be expected to do so within the near future. Prior to COP 21, Turkish Government had announced the INDC of Turkey; which included a pledge to reduce existing greenhouse gas emissions by 21% from business as usual by 2030, using a mix of domestic and international resources. The INDC covered a time horizon between 2012 to 2030 and took into account Turkey’s economy wide emissions resulting from energy, industrial processes and product use, agriculture, land use land-use change and forestry, and waste sectors. In order to fulfill the 21% BAU emission reduction target, the INDC listed a number of measures on a variety of fields including energy, industry, agriculture, forestry, waste, transport, buildings and urban transformation. Of those measures, we have especially taken into account energy related elements including increasing the share of renewable energy sources in electricity generation and modernizing grid infrastructure. In addition to this we have also assessed our emission reduction targets, as well as our climate change strategy and operations. We, then came into conclusion that we are in parallel with Turkey’s INDC target. Similar to the method used during the definition of Turkey’s INDC; our approach on analyzing the trajectory of our emissions took into account our historic emissions, growth targets and energy need. In this respect, our analysis indicated that Turkcell’s future emissions trajectory will not exceed the limits defined within the INDC. Taking into account Turkey’s pledge and its intention to further mobilize renewable energy sources within the INDC, Turkcell has recently defined more ambitious goals; including</p>

	<p>meeting 100% of our energy need from renewable sources by 2030 and becoming a carbon neutral company by 2050. Parallel to the ratification process, Turkey's INDC is expected to be revised. However, we do not expect the new target to be higher than ours. Furthermore, as an ICT company, we believe that Turkcell will take part in the solution side and be a part of the driving force for transition to a low carbon economy. According to GSMA's Climate Policy document, which was published on July 2020, our sector can generate a positive impact 10 times higher than its total annual emissions, via avoided emissions enabled by mobile communications technologies. In 2018, mobile communications technologies enabled a decrease in 1.44 billion MWh of electricity and gas, and 521 billion liters of fuel, globally. In addition, GeSI Smarter 2030 report points out that the increased use of information and communication technology (ICT) such as modern smart grids driven by cloud systems, smart metering, smart agriculture, video conferencing, and e-health applications, could cut the projected 2030 global greenhouse gas (GHG) emissions by 12.1 Gigatons carbon dioxide equivalent (GtCO₂e) and enable 1.4 trillion USD revenue and cost savings. Turkcell aims to position itself as a technology company providing digital tools supporting businesses to minimize their carbon footprint by maximizing operational efficiency. Turkcell offers a wide range of digital solutions including many high-tech elements such as IoT (internet of things), AI (Artificial Intelligence) and machine to machine (M2M) solutions enabling operational improvements in many sectors (such as transport, energy and agriculture) those would serve climate change mitigation and adaptation.</p>
--	--

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	There is an increasing demand for low carbon solutions enabling businesses to minimize their carbon footprint while maximizing their carbon footprint. Global e-Sustainability Initiative (GeSI) Smarter 2030 report points out that the increased use of information and communication technology (ICT) such as modern smart grids driven by cloud systems, smart metering, smart agriculture, video conferencing, and e-health applications, could cut the projected 2030 global greenhouse gas (GHG) emissions by 12.1 Gigatons carbon dioxide equivalent (GtCO ₂ e) and enable 1.4 trillion USD revenue and cost savings. Turkcell aims to position itself as

		<p>a technology company and expand its services in the field of digital service solutions in the medium term. Our current products cover a wide range of solutions including many high tech elements such as IoT (internet of things), AI (Artificial Intelligence) and machine to machine (M2M) solutions enabling operational improvements and providing energy efficiency in many sectors (such as transport, energy and agriculture) those would serve climate change mitigation and adaptation. Some of them include smart metering, fleet monitoring, remote temperature control systems and diesel generator monitoring systems enabling energy saving and emission reduction. We are growing aggressively in this area. Digital service solutions already constitute a major part of our revenue and we aim at significantly increasing this rate in the coming years. Digital business solutions, on the other hand, which are a part of our digital services, grew by 44% during the reporting year, generating a revenue of 1 billion TL.</p> <p>INDC of Turkey, which was the basis of our climate related scenario analysis aimed at lowering BAU emissions of Turkey by a number of measures in different areas. With regards to risks and opportunities for products and services we have especially taken into account the support measures for increasing energy efficiency.</p>
Supply chain and/or value chain	Yes	<p>Turkish Ministry of Environment and Urbanization's current regulatory work in progress indicate that Turkey will adopt a Climate Law and introduce a cap and trade regime covering carbon intense sectors, including energy generation. As a result of this, energy prices are expected to increase. Energy is a significant part of our operational costs due to high electricity demand of network facilities. Our energy need is expected to grow parallel to increasing cooling demand related to increasing average temperatures. In this respect, we decided to invest in renewable energy not only to reduce our operational costs but also to develop some level of self-sufficiency. We have recently announced our target to meet 100% of our energy need from renewable sources by 2030. As a part of this strategy, Turkcell Enerji, our subsidiary, will be turned into an energy generation company, providing Turkcell's energy supply from renewable sources including solar and wind energy. By investing in renewable energy generation, we will not only increase our self sufficiency on energy but also contribute in climate change mitigation.</p>

		<p>INDC of Turkey, which was the basis of our climate related scenario analysis aimed at lowering BAU emissions of Turkey by a number of measures in different areas. With regards to risks and opportunities for our supply chain we have especially taken into account the measures on energy sector where it was foreseen that the capacity of solar and wind power production will be increased to 16 – 10 GW respectively, by 2030.</p> <p>Increasing energy costs also effect transportation of purchased goods. In this respect, we attach importance to diversifying our supply chain and working with local suppliers. This allows us to reduce our purchasing costs and indirect emissions resulting from transportation. The share of our products and services purchased from our local suppliers of all purchased products and services identified in 2019 is 14%. We have saved 27.2 million TL with the products we supplied locally. In order to diversify our supply chain and increase the amount local suppliers we support domestic producers with our technology know-how and initiate projects to meet our high technological device demand with customized solutions.</p>
Investment in R&D	Yes	<p>There is an increasing demand for low carbon solutions enabling businesses to minimize their carbon footprint while maximizing increasing efficiency. In this context, Turkcell aims to position itself as a technology company and expand its services in the field of digital business solutions. Our current products include a wide range of digital solutions including many high tech elements such as IoT (internet of things), AI (Artificial Intelligence) and machine to machine (M2M) solutions enabling operational improvements in many sectors (such as transport, energy and agriculture) those would serve climate change mitigation and adaptation Some of them include smart metering, fleet monitoring, remote temperature control systems and diesel generator monitoring systems enabling energy saving and emission reduction. We are growing aggressively in this area. Currently digital service solutions constitute a major part of our revenue and we aim to significantly increase its share in the coming years. During the reporting year our digital business solutions, a part of our digital services, grew by 44% with a revenue of 1 billion TL. As a part of our vision to become a technology company we are heavily investing in R & D with 1263 R&D employees. Only during the reporting year, we made 531 patent applications.</p>

		INDC of Turkey, which was the basis of our climate related scenario analysis aimed at lowering BAU emissions of Turkey by a number of measures in different areas. With regards to opportunities regarding investments in R&D we have especially taken into account support measures for increasing energy efficiency at industrial installations.
Operations	Yes	Turkcell has base stations in all around Turkey. Climate change scenarios show an increasing trend for mean temperature coupled with increased/reduced precipitation in different regions. Higher mean temperatures result in higher cooling demand and costs. In addition, rising temperatures may trigger natural disasters, such as landslides and floods caused by volatile precipitation regimes. This might cause potential damage to property, risk to the safety of personnel and failure to access the site for repair and maintenance. We aim at increasing the resilience of our network infrastructure. For this purpose, we attached vital importance to our infrastructure investments. Notably during the reporting year our operator investments grew by 105.9 %, more than two-fold of the sector average. In addition, we are closely monitoring our network by smart network management systems using artificial intelligence. By increasing the resilience of our infrastructure further adapt in climate change. We have an award-winning Base Station Service Disruption Estimation System. Our decisions in this area were not informed by the INDC of Turkey, which was the basis of our climate scenario analysis. Because the INDC of Turkey did not include any measure or analysis concerning the physical effects of climate change.

C3.1e

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Indirect costs Capital expenditures Access to capital	Increasing demand for low carbon products and services provides an opportunity for ICT sector companies to increase their revenues by digital business solutions. Turkcell offers a wide range of digital solutions including many high tech elements such as IoT (Internet of Things), AI (Artificial Intelligence) and machine to machine (M2M) solutions enabling operational improvements in many sectors (such as transport, energy

	<p>and agriculture) those would serve climate change mitigation and adaptation. Some of them include smart metering, fleet monitoring, remote temperature control systems and diesel generator monitoring systems enabling energy savings and emission reduction. We are growing aggressively in this area. Currently digital service solutions constitute a major part of our revenue and we aim to significantly increase its share in the coming years. During the reporting year our digital business solutions, a part of our digital services, grew by 44% with a revenue of 1 billion TL. To be able to further increase our revenues in this area and become a technology company, we dedicated an R&D budget for the medium term.</p> <p>While investing in R&D to utilize the opportunity to increase revenues by low carbon products, we are also taking actions to minimize climate related risks. One of those risks include an increase in energy related operational costs due to a potential cap and trade regime. Turkish Ministry of Environment and Urbanization's current regulatory work in progress indicate that Turkey will adopt a Climate Law and introduce a cap and trade regime covering carbon intense sectors including energy generation. Although the regulation is not expected to cover the ICT sector, it is expected to impact Turkcell's energy costs, which constitute a major part of our operational expenditure. We invest in energy efficiency improvements and renewable energy generation projects not only to lower our operational costs but also provide some level of self-sufficiency on energy supply. For this purpose, we have planned an appropriate budget in the medium term.</p> <p>Apart from regulatory risks, we are also impacted by physical risks of climate change. Turkcell has base stations all around Turkey. Climate change scenarios show an increasing trend for mean temperature coupled with increased/reduced precipitation in different regions. Higher mean temperatures result in higher cooling demand and costs. In addition, climate related natural disasters such as floods, landslides and storms could cause potential damage to network equipment and property. Such risks may trigger an increase in our capital costs. For this reason, we attach vital importance to improving the resilience of our infrastructure. Only during the reporting year, our operator investments grew by 105.9%, more than two folds of the sector average. We are planning to continue our investments to further strengthen our infrastructure in the medium term.</p> <p>As a listed company on Istanbul Stock Exchange (BIST) Sustainability Index since 2014, we are aware that our investors and financial institutions are becoming increasingly sensitive on climate related risks. For this reason, we are regularly reporting our sustainability performance. We are also aware that such sensitivity provides a relative</p>
--	--

		advantage to well performing companies in terms of access to capital. In this respect, we are constantly investing in improving our sustainability efforts. To be able to better monitor and improve our sustainability performance this year (reporting year) we utilized 50 million Euro Sustainability Linked Loan with a 3-year term.
--	--	---

C3.1f

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

ITCs are energy dependent and energy intensive companies and they have geographically scattered stations. Turkcell faces a group of interrelated challenges in transitioning itself to the low carbon economy while managing risks and opportunities. The strategy for the transition could be based on four main aspects:

1. Mitigation:

The first and the most vital phase of low carbon economy is still the action for mitigation of global GHG emissions through efficiency, new technology and switching to renewable energy resources. Mitigation of GHG emissions by Turkcell includes these major steps:

1a. Improving Data Center Infrastructure Efficiency (DCIE)

- Reclaiming energy by avoiding cooling inefficiencies, upgrading the cooling system, allowing variable cooling and making greater use of outside air,
- Consolidation and virtualization of server utilization,
- Calibrating aisle temperatures and matching server capacity to load in real time,
- Correlating facility emergency procedures to minimize the impact of outages,
- Determining the actual power consumption to maximize server capacity,
- Switching from transfer switch to AC/DC distribution for better use of renewable energy resources such as solar power cells,
- High level of cooperation between facility and IT managers for consistency,
- Cost accounting to monetize the data centers to motivate financial rewards.

1b. Decreasing the data center or facility based energy consumption

- Investing in new renewable energy technology for data centers and stations such as solar power cells and wind,
- Improving the building conditions of management, stores and call centers,
- Minimizing commute and travel through video conferences and online communication platforms,
- Designing new Office buildings and data centers as per "green building" standards

2. Adaptation

Turkcell has developed unique solutions for natural disasters including climate borne disasters and thus has become technology partner of UNDP in 2013. Turkcell Business Continuity Management identifies potential threats, their impact and provides a framework for building resilience with the ability to create an effective response that safeguards the interests of key stakeholders and value-creating activities. Turkcell has established the Business Continuity Management System (“BCMS”) to implement, operate, monitor, review, maintain and improve the business continuity.

Turkcell BCMS is assisted by the coordinators and business continuity virtual team. Regular BCM training and awareness programs are carried out throughout the organization. The effectiveness of BCMS is monitored every year through internal/external audits, and integrated exercises, the results of which are reviewed in management review meetings. We exercise and test our business continuity plans, communication and warning procedures to ensure that they are consistent with the business continuity objectives.

Turkcell’s BCM will be able to cover the majority of Turkcell’s operations through potential environmental events and natural disasters. They are regularly exercised to guarantee the operation of time-sensitive business activities in case of business disruptions.

The adaptation of Turkcell to the new physical conditions of climate change may have these major steps:

- Assessing the geographic conditions of data centers and stations to forecast physical impact such as high temperature increase, flooding and storms,
- Building an infrastructure reinforcement plan based on the assessment above,
- Investing in the new insulation and impermeability technologies,
- Planning for emergency data center allocation in terms of non-repairable impact of instant physical change such as floods.

3. New Business Models

Climate change and the resulting conditions will eventually force the governments to formulate new regulations to force the businesses to mitigate the GHG emissions and adapt the new climate conditions. On the other hand the consumers and other stakeholders will demand new products and service tools that will meet these new requirements. Or else, consumers will favor certain products and services only because they are more climate-friendly. As much as these new business conditions may seem a source of risk for the corporates, they may be a source of new business opportunities. A paradigm shift with the picture of the new business structure under climate change means more business with innovative service and products. Such innovation within Turkcell can be realized by;

- Identifying the potential regulations such as emission caps and formulating strategies to meet the cap and become an emission reduction allowance seller in the market,
- Providing a futuristic approach to new products such as disaster alert, agricultural yield forecasts and disaster relief management,
- Creating new climate friendly products and services that will reinforce the identity of “corporate social responsibility”,
- Facilitating the use of ICT technologies in the concept of smart cities.

- Cloud based solutions such as cloud computing, cloud storage.

4. Climate Centered Corporate Engagement and Stakeholder Participation

As the society becomes more climate conscious and the public understanding of “personal benefit” evolves into “climate responsibility” under low carbon economy, it will become more important for companies to center their corporate engagement towards climate and related environmental issues. On the other hand, involving stakeholders and attending to their influence on climate related corporate strategy would become more sensitive. In that sense, Turkcell could;

- Contribute in raising public awareness for combat against climate change,
- Delivering the message to the governmental bodies and lobbying for the interest of the society,
- Cooperating for NGOs and other stakeholders and business groups to formulate climate change management strategies,
- Maintaining communication with the consumers, attending to their needs for new tools and services with respect to new low carbon economy,
- Building interest in innovation of new technology by cooperating with academia and research centers,
- Creating new B2B and B2C financial mechanisms to support research for new efficient technology and better use of renewable resources.

It is obvious that, in near future, a vital part of corporate risk management and strategy will depend on maintaining business under new climate conditions, regulations and the ability to transition to low carbon economy. The definition of business success and best practice will be redefined with respect to capability of developing business and maintaining market share, revenue and also reputation while the conditions change rapidly and drastically in the next two decades. Such capability is called “corporate climate resilience” and Turkcell aims at developing resilience by applying certain measures defined within four main areas as defined above.

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

2019

Covered emissions in base year (metric tons CO₂e)

492,013.25

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

100

Target year

2050

Targeted reduction from base year (%)

100

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

0

Covered emissions in reporting year (metric tons CO₂e)

492,013.25

% of target achieved [auto-calculated]

0

Target status in reporting year

New

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Please explain (including target coverage)

Turkcell aims to have net zero carbon emission by eliminating its total CO₂ emissions of its company-wide facilities (covering Scope 1 and Scope 2 emissions) until 2050 by implementing new energy efficiency projects (emission reduction projects), using the electricity generated from renewable energy sources.

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

2018

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: energy carrier

Electricity

Target type: activity

Production

Target type: energy source

Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)

MWh

Target denominator (intensity targets only)

Base year

2018

Figure or percentage in base year

0

Target year

2019

Figure or percentage in target year

745

Figure or percentage in reporting year

1,090

% of target achieved [auto-calculated]

146.3087248322

Target status in reporting year

Achieved

Is this target part of an emissions target?

Abs1

Turkcell aims to have net zero carbon emission by eliminating its total CO2 emissions of its facilities (covering Scope 1 and Scope 2 emissions) until 2050 by implementing new initiatives (emission reduction projects), using the electricity generated from renewable energy sources.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

Within the context of its carbon neutrality target by 2050, Turkcell is continuously investing in renewable energy generation to decarbonize its operations. In year 2018 Turkcell has set a target of meeting 100% of its electricity need from renewable sources by 2030. During the same year Turkcell has also set a production target of 745 MWh renewable electricity for 2019. By the end of its reporting period Turkcell exceeded its target by generating 1090 MWh electricity from renewable resources.

Target reference number

Low 2

Year target was set

2018

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: energy carrier

Electricity

Target type: activity

Production

Target type: energy source

Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)

MWh

Target denominator (intensity targets only)

Base year

2018

Figure or percentage in base year

0

Target year

2020

Figure or percentage in target year

1,300

Figure or percentage in reporting year

1,090

% of target achieved [auto-calculated]

83.8461538462

Target status in reporting year

Underway

Is this target part of an emissions target?

Abs1

Turkcell aims to have net zero carbon emission by eliminating its total CO2 emissions of its domestic production plants until 2050 by implementing new initiatives (emission reduction projects), using the electricity generated from renewable energy sources.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

Within the context of its carbon neutrality target by 2050 which was specified on C4.1a (Abs1), Turkcell is continuously investing in renewable energy generation to decarbonize its operations. In year 2018 Turkcell has set a target of meeting 100% of its electricity need from renewable sources by 2030. During the same year; Turkcell has also set a production target of 1300 MWh renewable electricity for 2020. By the end of its reporting period Turkcell already succeeded to generate 1090 MWh electricity from renewable resources.

Target reference number

Low 3

Year target was set

2018

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)

Base year

2018

Figure or percentage in base year

0

Target year

2030

Figure or percentage in target year

100

Figure or percentage in reporting year

0.2

% of target achieved [auto-calculated]

0.2

Target status in reporting year

Underway

Is this target part of an emissions target?

Abs1

Turkcell aims to have net zero carbon emissions by eliminating its total CO₂e emissions of its facilities until 2050 by implementing new energy efficiency projects (emission reduction projects), using the electricity generated from renewable energy sources.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

Within the context of its carbon neutrality target by 2050 which was specified on C4.1a (Abs1), Turkcell is continuously investing in renewable energy generation to decarbonize its operations. In year 2018 Turkcell has set a target of meeting 100% of its electricity need from renewable sources by 2030.

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	1	
To be implemented*	1	56
Implementation commenced*	0	0
Implemented*	8	19,986
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
Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)

1,513

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

2,006,975

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

4,260,960

Payback period

1-3 years

Estimated lifetime of the initiative

3-5 years

Comment

In the last few years we replaced our on/off air conditioners with more energy efficient inverter cooling systems at our network facilities. By only the investments made in 2019, we achieved 1513 tones CO2 reduction within our Scope 2 emissions.

Initiative category & Initiative type

Energy efficiency in production processes
Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)

366

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

145,634

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

718,000

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

In the last few years we achieved to increase energy efficiency at our network facilities by decommissioning air condition units at locations where the exterior temperature is ideal enough to cool down our equipment simply without using air conditioners. In addition, in some locations we have invested in passive cooling technologies. By only

the investments made in 2019, we achieved 366 tones CO₂e saving within our Scope 2 emissions.

Initiative category & Initiative type

Energy efficiency in production processes
Cooling technology

Estimated annual CO₂e savings (metric tonnes CO₂e)

1,072

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

1,421,614

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

10,001,000

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

In the last few years we renewed our rectifier equipment at our network facilities. By only the investments made in 2019, we achieved saving 1072 tones CO₂e within our Scope 2 emissions. Payback period of this investment may seem as equal to the estimated lifetime of initiative. The reason behind the long return on investment is the fact that we did not only invest in this equipment to reduce our electricity consumption but also to meet other vital needs such as running our telecom systems.

Initiative category & Initiative type

Energy efficiency in production processes
Cooling technology

Estimated annual CO₂e savings (metric tonnes CO₂e)

301

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

3,412,000

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

398,788

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

In the last few years we replaced container-based network facilities with outdoor cabinets. By only the investments made in 2019, we achieved 301 tonnes CO₂e saving within our Scope 2 emissions. Payback period of this investment may seem as equal to the estimated lifetime of initiative. The reason behind the long return on investment is the fact that we did not only invest in this equipment to reduce our electricity consumption but also to meet other vital needs such as running our telecom systems.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

15,334

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

20,351,400

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

0

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

In the last few years we optimized electricity consumption of radio equipment at our network facilities by applying smart algorithms. By only the investments made in 2019, we achieved saving 15,334 tonnes CO₂e within our Scope 2 emissions.

Initiative category & Initiative type

Low-carbon energy consumption
Solar PV

Estimated annual CO₂e savings (metric tonnes CO₂e)

102

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

135,340

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

1,700,000

Payback period

11-15 years

Estimated lifetime of the initiative

6-10 years

Comment

In the last few years we have been investing in renewable energy sources at our base stations. By only the investments made in 2019 we achieved 102 tonnes CO₂e saving within our Scope 2 emissions. The reason behind the long return on investment is the fact achieving savings on energy and emissions is not the only reason behind renewable energy investments. Other purposes of renewable energy investments at base stations include powering telecom equipment at off the grid locations and increasing service quality at locations powered by grid electricity.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

1,288

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

1,708,848

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

12,500,000

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

In the last few years we have been investing in GPON technology, providing energy efficiency in fixed network systems for internet services. By only the investments made in 2019 we achieved saving 1288 tones CO2e within our Scope 2 emissions. Payback period of this investment may seem as equal to the estimated lifetime of initiative. The reason behind the long return on investment is the fact that we did not only invest in this equipment to reduce our electricity consumption but also to meet other vital needs such as running our telecom systems.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Turkcell has established its Energy Committee in 2014. One of the responsibilities of the Committee is reviewing the Energy consumption & efficiency plans. Within this scope, investment needs, returns and cost benefit analysis are made and submitted to management for approval. Dedicated budgets are reserved for approved investments. Furthermore, we have increased the number of base stations powered by renewable energy. Moreover, we have installed energy measurement systems to monitor our energy consumption. We have built a system to monitor our energy consumption; carry out energy efficiency studies and make improvements where necessary. The system has received ISO50001 (Energy Management System) certification, and Turkcell remains the industry leader in this regard. In addition, Turkcell also invests in renewable energy generation projects. During the reporting year we opened the first Solar Power Plant in Turkish Republic of Northern Cyprus, which is expected to produce 1500 MWh electricity per year. Moreover, we also apply solar roof installations at our data centers. We will continue to invest in such projects as a part of our target to provide 100 % of its

	energy need from renewable sources by 2030; and we dedicated an appropriate budget in this regard.
--	--

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

Turkcell offers innovative solutions for its clients for increasing saving and efficiency of their processes. M2M (Machine to Machine) is a new technology designed to enable machines to be managed and monitored remotely and communicate to each other through a specified SIM card. M2M services offered by Turkcell include Smart Device, Mobile POS, Team Mobile, Smart Energy, Smart House, Smart Industry. Cloud technology reduces the server related costs and increases the capacity of the servers.

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

Internal methodology

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

Comment

Due to competitive confidentiality we can not provide information on the share of revenue from these products.

Level of aggregation

Product

Description of product/Group of products

Turkcell Filiz is a mobile application used in conjunction with the earth-weather station, providing instant data about the field to the user. It helps the grower to make irrigation and spraying decisions according to soil and weather conditions in order to increase productivity. Turkcell Filiz is an ideal solution product for all companies who want to get maximum yield from their soil and to follow the product development according to weather and soil conditions. Considering that 70 percent of the world's water resources are used for agriculture, Turkcell Filiz offers the opportunity to save 10 percent, especially in irrigation.

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

Internal methodology

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

Comment

Due to competitive confidentiality we can not provide information on the share of revenue from this product.

Level of aggregation

Product

Description of product/Group of products

Turkcell ConferenceCell provides to meet two or even six people at same time. With this product, people do not need face to face meeting and decrease of trip requirement. Indirectly contribute to emission reduction.

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

Internal methodology

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

Comment

Due to competitive confidentiality we can not provide information on the share of revenue from this product.

Level of aggregation

Product

Description of product/Group of products

Turkcell offers its customers products by which they can reduce their carbon footprint.

Dergilik prevents thousands of trees being cut down by enabling customers to read magazines and newspaper online which means reducing paper consumption and less emissions resulting from the distribution of newspapers and magazines.

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

Internal methodology

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

Comment

Users of our Dergilik application downloaded over 140 million newspapers and magazines, and made access to more than 7 billion pages. Thanks to Dergilik, over 35,000 tons of CO₂e was avoided by protecting almost 500 thousand trees during the reporting year. Due to competitive confidentiality we can not provide information on the share of revenue from this product.

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, 2016

Base year end

December 31, 2016

Base year emissions (metric tons CO₂e)

8,263

Comment

Scope 2 (location-based)

Base year start

January 1, 2016

Base year end

December 31, 2016

Base year emissions (metric tons CO₂e)

325,436

Comment

Scope 2 (market-based)

Base year start

January 1, 2016

Base year end

December 31, 2016

Base year emissions (metric tons CO₂e)

0

Comment

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)

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)

108,025.31

Comment

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We 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

C6.3

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

Reporting year

Scope 2, location-based

383,987.94

Comment

C6.4

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

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

Please explain

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

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

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

79,351.95

Emissions calculation methodology

Activities in this scope include following elements:

- Transferring fuels consumed within Scope 1 activities (from well to tank)
- Distribution and transmission losses for electricity

During the well to tank (WTT) transfer of fuels used disclosed within scope 1 and Scope 2 we consume natural gas, diesel, gasoline and electricity. The consumption amounts are multiplied by the corresponding DEFRA Scope 3 emission factors for the reporting year. Emissions resulted from the above-mentioned activities are calculated in accordance with ISO 14064 methodology.

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

0

Please explain

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

725.76

Emissions calculation methodology

Activities in this scope include transportation of electrical and electronic equipment used in the field. In this context, we collect diesel consumption amount from our logistics provider and multiply this with relevant DEFRA emission factors. Emissions resulted from the above-mentioned activities are calculated in accordance with ISO 14064 methodology.

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

100

Please explain

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

22.39

Emissions calculation methodology

We only include recycled waste data. We multiply the KG amounts collected by our value chain partner with the relevant DEFRA waste emission factors for the reporting period. Emissions resulted from the above-mentioned activities are calculated in accordance with ISO 14064 methodology.

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

100

Please explain

Business travel

Evaluation status

Relevant, not yet calculated

Please explain

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

526.54

Emissions calculation methodology

We collect mileage and fuel (diesel) consumption information from our service provider for employee service buses and multiply with DEFRA factors. Emissions resulted from those activities are calculated in accordance with ISO 14064 methodology.

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

100

Please explain

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

We include the emissions resulting from our base stations in leased locations in our Scope 1 emissions because we have direct operational control over them.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

Data regarding downstream transportation and distribution is included in upstream transportation and distribution emissions because we use the same logistics provider and it is virtually impossible to separate the data.

Processing of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Use of sold products

Evaluation status

Relevant, not yet calculated

Please explain

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

There are no downstream leased assets for Turkcell.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Turkcell vendors do not operate in the form of franchises. Each vendor is a separate company.

Investments

Evaluation status

Relevant, not yet calculated

Please explain

Other (upstream)

Evaluation status

Please explain

Other (downstream)

Evaluation status

Please explain

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

0.0000229

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

492,013.25

Metric denominator

unit total revenue

Metric denominator: Unit total

21,487,156,000

Scope 2 figure used

Location-based

% change from previous year

4.94

Direction of change

Decreased

Reason for change

While our absolute Scope 1 and Scope 2 emissions increased by about 11.43%, we managed to decrease our emissions intensity by 4.94% since the previous reporting year (2018). This was because of our revenue growth, which had increased by 15.46% between 2018 and 2019 financial years. As a result of our emission reduction initiatives at our base stations including energy efficiency improvements (such as passive cooling systems, decommissioning unnecessary air conditioning units, power saving algorithms, GPON technology, efficient rectifiers and inverters) and renewable energy investments, we achieved to save 19,986 tons of CO2 emissions, which corresponds to 4% of total Scope 1 and Scope 2 emissions.

C7. Emissions breakdowns

C7.1

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

Yes

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO ₂ e)	GWP Reference
CO ₂	103,289.93	IPCC Fifth Assessment Report (AR5 – 100 year)
CH ₄	376.99	IPCC Fifth Assessment Report (AR5 – 100 year)
N ₂ O	280.95	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	4,077.42	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 CO ₂ e)
Turkey	108,025.31

C7.3

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

By activity

C7.3c

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

Activity	Scope 1 emissions (metric tons CO ₂ e)
Direct Heating	1,621.88
Emergency generator	97,362.46
Fuel consumption by corporate vehicles	4,959.54
Fugitive emissions - Refrigerant gasses	2,633.24
Fugitive emissions – Fire extinguishers	1,448.19

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)	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)
----------------	---	---	--	--

Turkey	383,987.94	0	806,912.91	0
--------	------------	---	------------	---

C7.6

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

By activity

C7.6c

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

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Purchased electricity	382,927.51	0
Purchased heating	1,060.43	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?

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	762.8	Decreased	0.2	During the reporting year we used 1596 MWh of renewable electricity. As a result of this, we achieved to save 762.8 tons of CO2. In proportion to our total Scope 1 and 2 emissions in 2018 (435,795 tons CO2e), the CO2 savings we achieved by renewable electricity use was 0.2%. Therefore, we arrived at 0.2% through $(762.8 / 435,795) * 100 = 0.2\%$
Other emissions	19,884	Decreased	5	During the reporting year we saved 19884 tons of CO2 by our energy

reduction activities				efficiency investments at our network facilities. In proportion to our total Scope 1 and 2 emissions in 2018, (435,795 tons CO2e), the CO2 savings we achieved by energy efficiency investments was 5%. We arrived at 5% through $(19,884 / 435,795) * 100 = 5\%$
Divestment				
Acquisitions				
Mergers				
Change in output	56,218.69	Increased	13	During the period between FY 2018 and FY 2019 our revenue grew by 15.80% whereas our total Scope 1 and Scope 2 emissions increased 13% (56,218.69 ton CO2e). We arrived at 13% by $(56,218.69 / 435,795) * 100 = 13\%$
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other	8,740	Increased	2	We have increased the capacity of our Gebza Data Center and we opened a new Data Center in Ankara during the reporting year. Those capacity increases caused an additional 8740 tons of CO2e emissions. (7222 tons of CO2 at Gebze Data Center due to additional consumption of electricity and 1518 tons of CO2e by Ankara Data Center). Percentage of increase in emissions resulting from those capacity increases was calculated in proportion to our total Scope 1 and 2 emissions in 2018 (435,795 tons CO2e). We arrived at 2% through $(8,740 / 435,795) * 100 = 2\%$

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	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh

Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	389,278.94	389,278.94
Consumption of purchased or acquired electricity		0	801,103.57	801,103.57
Consumption of purchased or acquired heat		0	5,809.33	5,809.33
Consumption of self-generated non-fuel renewable energy		1,596		1,596
Total energy consumption		1,596	1,196,191.85	1,197,787.85

C8.2b

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

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	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

8,006.94

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

8,006.94

Emission factor

0.05626

Unit

metric tons CO₂e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2 Energy,
Chapter 2 Stationary Combustion (Table 2.4)

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

378,999

MWh fuel consumed for self-generation of electricity

362,831

MWh fuel consumed for self-generation of heat

16,167

Emission factor

0.07489

Unit

metric tons CO₂e per GJ

Emissions factor source

IPCC Chapter 2 Stationary Combustion (Table 2.3) & IPCC Chapter 3 Mobile
Combustion (Table 3.3.1) average IPCC Fifth Assessment Report

Comment

Diesel is used for stationary (emission factor 0,074) and mobile heating (emission factor 0,075) purposes. Therefore, we calculated the emission factor by taking the average of these two emission factors.

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

2,273

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

2,273

Emission factor

0.07091

Unit

metric tons CO2e per GJ

Emissions factor source

IPCC Chapter 3 Mobile Combustion (Table 3.2.1 &3.2.2) IPCC Fifth Assessment Report

Comment

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	364,427.92	364,427.92	1,596	1,596
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C9. Additional metrics

C9.1

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

C10. Verification

C10.1

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

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

C10.1a

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 Turkcell_CDP statement_2019.pdf

Page/ section reference

1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 Turkcell_CDP statement_2019.pdf

Page/ section reference

1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1c

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

Scope 3 category

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

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

 Turkcell_CDP statement_2019.pdf

Page/section reference

1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Upstream transportation and distribution

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

 Turkcell_CDP statement_2019.pdf

Page/section reference

1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Waste generated in operations

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

 Turkcell_CDP statement_2019.pdf

Page/section reference

1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Employee commuting

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

 Turkcell_CDP statement_2019.pdf

Page/section reference

1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100


C10.2

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

Yes

C10.2a

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

 Turkcell_CDP statement_2019.pdf

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISO 14064-3	Our energy consumptions related to emissions were verified as well. (See page 1, Additionally verified data as follows section in the attached statement).

C11. Carbon pricing

C11.1

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

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

C11.2

(C11.2) Has your organization 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

Stakeholder expectations

GHG Scope

Scope 3

Application

Turkcell defines its sustainability strategy and goals by considering science – based scenarios on climate change and Sustainable Development goals. We recently set a target to become a carbon neutral company by 2050. In this context, we are planning to develop an internal carbon pricing scheme with the aim of offsetting some of our Scope 3 emissions. In this respect we aim to initiate a change on purchasing preferences on areas such as business flights, corporate communication events and office supplies. We anticipated the carbon price for this scheme based on the offers we collected from our solution partners on the market to offset our emissions resulting from our activities. Unit price of carbon for offsetting varied per the activity with a range between 0.5 to 1 Euro. For this reason, we calculated the estimated price by taking the average of this range. TL equivalent of estimated price was calculated over the average Euro – TL exchange rate for the year 2019 (5.67).

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

4.75

Variance of price(s) used

We are planning to define a single price covering our operations in Turkey.

Type of internal carbon price

Offsets

Impact & implication

We are planning to initiate the internal carbon pricing scheme in 2021. Hence, the scheme has not created an impact on the Company yet. However, when the implementation starts, we anticipate this scheme to contribute creating an awareness among our employees on the impact of our activities and trigger behavior change.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

C12.1a

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

Type of engagement

Compliance & onboarding

Details of engagement

Included climate change in supplier selection / management mechanism

% of suppliers by number

100

% total procurement spend (direct and indirect)

100

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

1

Rationale for the coverage of your engagement

Turkcell applies an established Ethic Procurement Rule to make its business relationships more transparent and standard. Those rules cover a number of issues related to child labor, bribery, working hours, health and environment. Under the environment related rules, we determined green procurement principles. The suppliers are informed about those principles in written format and required to agree to abide by them. Within the context of our green procurement principles we prefer to purchase energy efficient equipment for our network facilities, latest technology cooling systems for our data centers and office supplies produced from recycled material.

In addition to this; we attach importance to diversifying our supply chain and working with local suppliers. This allows us to reduce our purchasing costs and indirect emissions resulting from transportation. The share of our products and services purchased from our local suppliers of all purchased products and services identified in 2019 is 14%. During this period, we have saved 27.2 million TL with the products we supply locally. In order to diversify our supply chain and increase the amount local suppliers we support domestic producers with our technology know-how and initiate projects to meet our high technological device demand with customized solutions.

Impact of engagement, including measures of success

By applying green procurement principles; we raise the awareness of our suppliers on climate change and motivate them to be more critical on their environmental impact. By only preferring energy efficient inverter air conditioning systems and rectifiers at our base stations (in accordance with our green procurement principles) we saved 2585 tons of CO2 during the reporting year.

In addition to this, by prioritizing local suppliers we reduced our indirect emissions resulting from transport of purchased goods.

Comment

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

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

% of customers by number

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

0

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

Turkcell strives to develop more energy efficient technologies and products. By offering digital solutions enabling energy and water efficiency we raise the awareness of our clients on their environmental impact and the ways they could control such impacts. Turkcell offers a wide range of digital solutions including many high tech elements such as IoT (internet of things), AI (Artificial Intelligence) and machine to machine (M2M) solutions enabling operational improvements in many sectors (such as transport, energy and agriculture) those would serve climate change mitigation and adaptation. Some of them include smart metering, fleet monitoring, remote temperature control systems and diesel generator monitoring systems enabling energy saving and emission reduction. Apart from those solutions we also offer a number of other digital services for individual customers. For example, our "Dergilik" application provides the possibility to reach magazines and newspapers on a single digital platform.

In addition to this Turkcell also informs its clients on its climate change performance by annually published sustainability reports.

Impact of engagement, including measures of success

We measure our success in this field by the increasing demand on our digital solutions. Currently Digital service solutions in total constitute a major part of our revenue and we aim at significantly increasing this rate in the coming years. During the reporting year our digital business solutions, a part of our digital services, grew by 44% with a revenue of 1 billion TL.

Users of our Dergilik application downloaded over 140 million newspapers and magazines and made access to more than 7 billion pages. As a result, Dergilik contributed to avoiding 35000 tons of CO₂e by protecting almost 500 thousand trees.

C12.1d

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

Turkcell is a member of a number of sectoral and business associations and we attach importance to our communication with those associations. We engage with these organizations via taking part in meetings, collaborative projects and written contribution where we contribute in reports and position papers. Turkcell is a member of major business and sectoral associations such as GSM Association (GSMA) and TUSIAD; which are raising awareness on climate change at industry level and contributing policy making processes by providing business insights. Turkcell's CEO is the only representative from Turkey, who is a member of GSMA's Board. As a part of GSMA's Initiative to develop a decarbonization pathway for the mobile industry, in line with the Paris Agreement, Turkcell pledged to become a carbon neutral company by 2050. In addition to this, Turkcell's CFO is the only representative from Turkey who is taking part in UN Global Compact's CFO task force, which aims to define the principles and action plan for sustainable corporate finance.

Turkcell is also working in close cooperation with public authorities, which are crucial partners in our value chain, not only in terms of direct communication during policy making process but also to raise awareness on climate change related issues. We engage with the public authorities by one on one meetings, written communication as well collaborative projects. For example, Turkcell's search engine "Yaani" is implementing a project in cooperation with the Ministry of Agriculture and Forestry of Turkey (MAF), named "hand for a greener Turkey". In this context Yaani supports planting 1 sapling for every 100 searches. Saplings are planted at the forest areas managed by the MAF. Turkcell is also forestating surroundings of its base stations and data centers. The project aims at reaching 1 million saplings. In line with the United Nations Sustainable Development Goals, it is aimed to restore terrestrial eco-systems by 2020. Stopping deforestation is also vital to mitigating the effects of climate change. With this project, Yaani provides millions of species with living space, fresh air and water resources. Forestation made in the areas deemed appropriate by T.C. Ministry of Agriculture and Forestry. Turkcell also provided technology support to a project developed by the Ministry called TARBİL which aimed at improving agricultural efficiency through tracking water and pesticide control.

Furthermore, Turkcell is working in cooperation with municipalities to support climate change mitigation and adaptation initiatives. In this context Turkcell has collaborated with Gaziantep Metropolitan Municipality to implement several technologies which offer real-time measurements, as well as vehicle tracking, remote meter reading, water/irrigation management and heat monitoring. In addition to energy efficiency, measures have enabled flood prevention, better maintenance of green space. As a result of such solutions, the city has saved approximately 30 million Turkish Liras per year.

C12.3

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

- Direct engagement with policy makers
- Trade associations
- Other

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Clean energy generation	Support with minor exceptions	<p>We are in continuous communication with almost all public authorities in Turkey especially institutions such as the Ministry of Energy and Natural Resources and EMRA (Energy Market Regulatory Authority) through our Regulation Director. As a natural part of this communication, we contribute in the development processes for regulations on clean energy.</p> <p>The Regulation on Certification and Support of Renewable Energy Resources and the Regulation on Non-Licensed Electricity Production in the Electricity Market offer a support mechanism for non-licensed renewable energy producers in Turkey. According to this mechanism, businesses producing small scale (with a power capacity below 1 MW) electricity for self-consumption purposes can sell the excess production to the grid. Turkcell develops small scale renewable energy projects at its base stations which are usually placed in zones that fall far from the grid. Hence those projects cannot benefit from the current mechanism. Turkcell works closely with the Ministry of Energy and Natural Resources of Turkey to expand the scope of these incentives by holding meetings with the relevant departments and submitting position papers.</p> <p>Considering our wide energy supply network; We cooperate with our suppliers with a holistic approach. In this direction, we create an indirect communication and impact with</p>	Turkcell is proposing to expand the scope of the legislation to cover non-licensed renewable electricity projects for self-consumption purposes at off-grid locations and providing them investment support.

		institutions such as associations, foundations and industry unions, which are quite effective in policy makers' decision-making mechanisms.	
Other, please specify Changing to digital electricity supply contracts	Support	In order to reduce the paper consumption arising from invoices and to make a positive contribution, we were in a direct engagement with policy makers in line with the digital contract recommendations we submitted to the EMRA (Energy Market Regulatory Authority). We also helped in preparation process of expected new regulations and we are actively in contact with the Regulatory body.	Allowing electricity consumers to change their suppliers in online platforms thus making the process environmentally-friendly and fast, while avoiding paper consumption which can result in scope 3 emissions savings.

C12.3b

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

Yes

C12.3c

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

Trade association

Informatics Industry Association (TUBISAD)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Informatics Industry Association (TUBISAD) has more than 200 members governing a volume of 40 billion USD. TUBISAD is supporting environment-friendly Technologies and working for developing regulations and policies for a healthy, competitive and sustainable ICT market in Turkey. During the reporting year TUBISAD has published the report on "Turkey on the Way of Digitalization"; including policy proposals for improving digital infrastructure by common efforts and R&D support schemes for projects on artificial intelligence. TUBISAD is also the authorized organization for collection and recycling of electronic waste in Turkey and works in close cooperation with the Ministry of Environment and Urbanization and municipalities.

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

Turkcell is a board member in TUBISAD and able to influence the decisions and actions taken by TUBISAD. Turkcell regularly attends meetings of TUBISAD and contributes in position papers and reports drafted by the association. During the reporting year, Turkcell has started a campaign named “Transform it into education” in cooperation with TUBISAD. In this context the electronic waste collected in Turkcell shops was recycled by TUBISAD, for the benefit of Turkish Education Volunteers Association.

Trade association

GSMA (The GSM Association)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association’s position

The GSM Association (GSMA) is collaborating with the European Commission and the International Telecommunication Union (ITU) on standardization, including methodologies to assess environmental impact. The Mobile Energy Efficiency GSMA acknowledges role of ICT in managing GHG emissions and collaborates with its members, international agencies (EU, IFC, WB, international telecommunication unit etc) to develop methodology and tools for emission reduction via ICT applications. During the reporting year GSMA started an initiative to develop a mobile industry climate action roadmap in line with the Paris Agreement. As the first step of this initiative; world’s largest mobile operator groups have agreed to start disclosing their climate impacts. The first step will be followed by development of a decarbonization pathway for the mobile industry, aligned with the Science Based Targets initiative (SBTi).

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

Turkcell is represented at GSMA Board by our CEO. We are supporting GSMA efforts and providing communication on progress in line with GSMA's objectives for reducing emissions and providing solutions. As a part of GSMA’s Paris Agreement initiative Turkcell pledged to become a carbon neutral company by 2050. Previously Turkcell had also prepared a video for GSMA to disclose the efforts for Energy efficiency and emission reduction on a publicly available channel (youtube) with “Turkcell Energy Management Programme” title.

Trade association

Turkish Industry and Business Association (TUSIAD)

Is your position on climate change consistent with theirs?

Unknown

Please explain the trade association’s position

Turkcell is a member of Turkish Industry and Business Association (TUSIAD). TUSIAD is part of the Coordination Board on Climate Change and Air Management (IDHYKK) which is a high-level advisory body on climate change including undersecretaries of

related ministries and representatives of business associations. TUSIAD represents a large scale of industry in this committee. Apart from its presence at IDHYKK; TUSIAD closely follows climate related legislative consultation processes and submits its position. In this context TUSIAD has contributed the Ministry of Environment and Urbanization's work within the Partnership for Market Readiness (PMR) Project, covering the initial preparation for the legal basis of an emissions trading scheme in Turkey by regularly taking part in the meetings. As a member of TUSIAD, Turkcell supported the work conducted by TUSIAD.

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

As a member of TUSIAD Environment and Climate Change Working Group. Turkcell contributes TUSIAD's work In this context, by taking part in working group meetings and providing inputs in position papers.

C12.3e

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

Turkcell supports many NGOs, networks and stakeholders. We are developing projects, sponsoring events or publishing reports in collaboration with those stakeholders. A full list of such projects is available at the sustainability section of our website.

During the reporting year Turkcell sponsored Gelibolu Marathon, a sports event, for the benefit of forests in the region. As a result of 2019, Marathon, 100 000 saplings were planted in the region. In addition, Turkcell also developed an information platform on sustainability for children, including information on the causes of climate change and actions to be taken against it. The platform can be found at the sustainability section of our website. By engagements similar to Gelibolu Marathon and the information platform on sustainability for children, where we interact with large groups, we aim at raising further awareness on climate change for further action on the side of policy making.

Moreover, Turkcell, actively participates in the events (conferences, seminars etc.) and shares the experience of Turkcell in energy saving and emission reduction activities which may serve as an example for the sector.

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?

Turkcell has a corporate Climate Strategy Outline to define its overall climate change strategy and how it is integrated to its corporate risk management. Both Corporate Communication Director and Energy and Technology Group/Infrastructure Management Manager are responsible with maintaining the consistency of all Turkcell activities with the climate strategy outline paper. Both directors review the climate strategy together with Turkcell activities and projects before assuring the consistency. In addition to this our relevant divisions which are in contact with the public authorities (Ministry of Energy and Natural Resources and EMRA) and

the trade associations (TUSIAD, GSMA and TUBISAD) ensure that Turkcell's position on the issues addressed on those platforms, is in line Turkcell's climate strategy.

Turkcell has accelerated its actions on smart and innovative technologies to contribute to low carbon transition.

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

 Turkcell_Sustainability Report_2018_EN.pdf

Page/Section reference

66

Content elements

Governance

Emissions figures

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	Chief Executive Officer (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.

We have been invited by GSM Association (GSMA) to answer the below listed questions on supply chain module. However, Turkcell does not have a supply chain relationship with GSMA. For this reason, we could only provide limited information in this context. For any information on Turkcell's performance on climate change, you may refer to the previous section of the report.

SC0.1

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

	Annual Revenue
Row 1	21,487,156,000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

No

SC1.1

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

SC1.2

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

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
-----------------------	--

SC1.4

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

SC2.1

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

SC2.2

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

SC3.1

(SC3.1) Do you want to enroll in the 2020-2021 CDP Action Exchange initiative?

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2019-2020 Action Exchange initiative?

SC4.1

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission
I am submitting my response		Public

Please confirm below

I have read and accept the applicable Terms