

Module: Introduction**Page: Introduction**

CC0.1**Introduction**

Please give a general description and introduction to your organization.

Turkcell is a converged telecommunication and technology services provider, founded and headquartered in Turkey. It serves its customers with voice, data, TV and value-added consumer and enterprise services on mobile and fixed networks.

Turkcell's shares have been traded on the Borsa Istanbul (BIST) and New York Stock Exchanges (NYSE) since July 11, 2000, and it is the only Turkish company to be listed on the latter exchange. Turkcell is also quoted on the Borsa Istanbul Sustainability Index.

By end of 2016, Turkcell has 35.3 Million subscribers in Turkey, out of which 2.1 are mobile M2M clients. Total revenue of Turkcell in 2016 has been realized as 14285561 million TL.

CC0.2**Reporting Year**

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day (DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed

Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country

Turkey

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

TRY

CC0.6

Modules

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The final execution power for climate related decisions in Turkcell is on the CEO, Kaan Terzioğlu. Turkcell executive management acknowledge 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: 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 for improvement are considered, energy efficiency or renewable energy projects are designed. The final review for these actions is done by Technology Group/Infrastructure Management Manager and presented to the CEO for approval.

2)Climate centred 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.

Turkcell has established an Energy Management Committee in 2014 which is coordinated by Technology Group/Infrastructure Management Manager. The Committee evaluates energy and GHG emissions related issues and discuss proposals for solution. Technology Group/Infrastructure Management Manager gives information to Corporate Communication Director regarding the resolutions reached by the Committee and targets for reducing Energy consumption.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

| Who is entitled to benefit from these incentives? | The type of incentives | Incentivized performance indicator | Comment |
|--|-------------------------------|---|---|
| All employees | Recognition (non-monetary) | Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target | There are a range of rewarding schemes at Turkcell. "Now This Deserves An Award" projects that honor those who make a difference; TiP awards for innovative ideas through the Turkcell Innovation Platform. |
| All employees | Monetary reward | Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target | 4.6 million TRY was distributed among 1,250 of Turkcell Group employees under various projects. |

| Who is entitled to benefit from these incentives? | The type of incentives | Incentivized performance indicator | Comment |
|---|---------------------------|---|---|
| | | Efficiency project Efficiency target | |
| Energy managers | Other non-monetary reward | Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target | 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: Energy Committee | Monetary reward | Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target | Defining energy efficiency targets, achievements and saving are scored in KPIs of committee members and relevant teams. |

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

| Frequency of monitoring | To whom are results reported? | Geographical areas considered | How far into the future are risks considered? | Comment |
|-------------------------|--|---|---|---|
| Annually | Board or individual/sub-set of the Board or committee appointed by the Board | Whole operational areas of Turkcell Turkey. | 3 to 6 years | Turkcell has received ISO22301 Business continuity certificate. Turkcell is continuously improving business continuity capacity in accordance with ISO 22301 international standard 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. Besides, as a general risk management practice, risk assessment is carried out by 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 modelled within integrated risk management process. |

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

Business continuity management system (BCMS) has been developed to cover various hazards and scenarios together with impact on activities. After months of data collection, activities are identified and prioritized. Turkcell Climate Strategy Brief is based on four main aspects; Mitigation, Adaptation, New Business Models, Climate Centered Corporate Communication and Stakeholder Participation.

The Climate strategy Brief contains major steps for how carbon-related risks 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.

Risk determination has been made by Corporate Risk Management (CRM) which identifies, analyzes and assesses any risks arising from the processes and activities of their departments. They ensure that any necessary actions are planned, and communicate these plans to the CRM Unit. CRM provides the required support, coordinates the relevant groups and conducts risk identification and risk analysis efforts. The findings of the Unit is reported to Early Risk Detection Unit.

Asset level risks and opportunities 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, Main and Midi POP points to access relative equipment through console interface or current NMS systems through alternative channels (ADSL, 3G) that do not use Turkcell network sources.

CC2.1c**How do you prioritize the risks and opportunities identified?**

The main driver for prioritization of these factors is based on five functions identified. Those are namely; finance, ICT, Network Operations, Consumer marketing and human resources. Within the scope of BCMS of Turkcell, 75 activity has been prioritized out of 1726 identified measures and those have been turned into action plans.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

| Main reason for not having a process | Do you plan to introduce a process? | Comment |
|--------------------------------------|-------------------------------------|---------|
|--------------------------------------|-------------------------------------|---------|

CC2.2**Is climate change integrated into your business strategy?**

Yes

CC2.2a**Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process**

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.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price on carbon?

No, and we currently don't anticipate doing so in the next 2 years

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
 Trade associations
 Funding research organizations
 Other

CC2.3a

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 | Turkcell develops renewable energy projects for the zones that fall far from the grid. Those activities also target improvement of sustainability. Turkcell works closely with the Ministry of Energy and Natural Resources for incentives to expand these projects to new areas. | Incentives for micro scale renewable projects to expand the renewable energy generation at different sites. |
| Adaptation resiliency | Support | Turkcell is a member to Turkish Industry and Business Association (TUSIAD). TUSIAD is part of the Coordination Board on Climate Change and Air Management which is the most executive governmental decision making body in Turkey. TUSIAD represents large scale industry in the committee and Turkcell contributes TUSIAD efforts to influence the major climate related decisions by the government. | IDKK (Climate Change Coordination Committee) of Turkey issues directives every six months and communicates various policies with different governmental policy makers. TUSIAD proposes GHG mitigation and adaptation policies at the Committee. |
| Other: Dissemination of M2M solutions | Support | In order to remove barriers for dissemination of M2M services, through Mobilsiad, Mobisad, Tütad, Teder and TBV, Turkcell is in contact with The Ministry of Transport, Maritime Affairs and Communication to remove the fee for wireless license. | In order to decrease import of smart devices and encourage local smart device and sim cards and disseminate broadband internet network, fee for KA band devices should be cancelled. This will increase the number of users, efficiency and avoid foreign trade loss. |
| Other: Emergency Disaster Management | Support | Turkcell set up a team to disseminate disaster emergency information to affected community and local institutions. Natural disasters are tracked by information systems. Turkcell provide coordinations in disaster areas. Locations of vulnerable peoples are shared with AFAD (Disaster&Emergency Management Authority). | Comprehensive Disaster and Disaster Recovery Management Policies. |
| Adaptation resiliency | Support | Turkcell provides technology support to the project (TARBİL) which is conducted by Ministry of Food, Agriculture and Livestock. The project aims to improve agricultural efficiency through tracking water and pesticide control. | Innovative development solutions for agriculture sector |
| Other: | Support | Turkcell has collaborated with Gaziantep Metropolitan Municipality to implement several technologies which offer real-time measurements, as | Dissemination of smart city technologies and providing incentives for local governments. |

| Focus of legislation | Corporate Position | Details of engagement | Proposed legislative solution |
|----------------------|--------------------|--|-------------------------------|
| | | well as vehicle tracking, remote meter reading, water/irrigation management, heat monitoring. In addition to energy efficiency, measures have enabled flood prevention, better maintenance of green space and as a result of such solutions, the city has saved approximately 30 million Turkish Liras per year. | |

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

| Trade association | Is your position on climate change consistent with theirs? | Please explain the trade association's position | How have you, or are you attempting to, influence the position? |
|----------------------------------|--|---|--|
| Informatics Industry Association | Consistent | 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 | Turkcell is a board member in TUBISAD and able to influence the decisions and actions taken by TUBISAD. |
| GSMA | Consistent | The GSMA is collaborating with the European Commission and the International Telecommunication Union (ITU) on standardisation, including methodologies to assess environmental impact. The Mobile Energy Efficiency GSMA acknowledges role of ICT in managing GHG emissions and collaborates with | Turkcell is supporting GSMA efforts and providing communication on progress in line with GSMA's objectives for reducing emissions and providing solutions . Turkcell has prepared a video for GSMA to disclose the efforts for Energy efficiency and emission reduction. video is available at https://www.youtube.com/watch?v=9dA4IN-FeIU |

| Trade association | Is your position on climate change consistent with theirs? | Please explain the trade association's position | How have you, or are you attempting to, influence the position? |
|-------------------|--|---|---|
| | | its members, international agencies (EU, IFC, WB, international telecommunication unit etc) to develop methodology and tools for emission reduction via ICT applications. | |

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

Yes

CC2.3e

Please provide details of the other engagement activities that you undertake

Turkcell supports or involved in many NGOs, networks or stakeholders. Turkcell is developing projects, sponsoring events or publishing reports in collaboration with those stakeholders. Full list is available at <http://www.turkcell.com.tr/tr/hakkimizda/sosyal-sorumluluk/stk-iliskileri/uyeliklerimiz>

Turkcell has a separate Turkcell Media address that enables to communicate directly with public and investors. <http://www.turkcell.com.tr/en/aboutus/investor-relations/press-release>

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

Turkcell has also initiatives in smart cities and works with city municipalities. Turkcell and Gaziantep municipality worked collaboratively to develop technological solutions to use natural resources effectively and improve the citizens' quality of life. The project anticipates 30 million TL cost avoidance from the Municipalities' budget in a year.

CC2.3f

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.

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

CC2.3g

Please explain why you do not engage with policy makers

Further Information**Attachments**

[https://www.cdp.net/sites/2017/45/21145/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/CC2.Strategy/Analysis-of-Turkcells-Disaster-Management-System.pdf](https://www.cdp.net/sites/2017/45/21145/Climate%20Change%202017/Shared%20Documents/Attachments/ClimateChange2017/CC2.Strategy/Analysis-of-Turkcells-Disaster-Management-System.pdf)

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

CC3.1a

Please provide details of your absolute target

| ID | Scope | % of emissions in scope | % reduction from base year | Base year | Base year emissions covered by target (metric tonnes CO2e) | Target year | Is this a science-based target? | Comment |
|----|-------|-------------------------|----------------------------|-----------|--|-------------|---------------------------------|---------|
|----|-------|-------------------------|----------------------------|-----------|--|-------------|---------------------------------|---------|

CC3.1b

Please provide details of your intensity target

| ID | Scope | % of emissions in scope | % reduction from base year | Metric | Base year | Normalized base year emissions covered by target | Target year | Is this a science-based target? | Comment |
|----|-------|-------------------------|----------------------------|--------|-----------|--|-------------|---------------------------------|---------|
|----|-------|-------------------------|----------------------------|--------|-----------|--|-------------|---------------------------------|---------|

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

| ID | Direction of change anticipated in absolute Scope 1+2 emissions at target completion? | % change anticipated in absolute Scope 1+2 emissions | Direction of change anticipated in absolute Scope 3 emissions at target completion? | % change anticipated in absolute Scope 3 emissions | Comment |
|----|---|--|---|--|---------|
|----|---|--|---|--|---------|

CC3.1d

Please provide details of your renewable energy consumption and/or production target

| ID | Energy types covered by target | Base year | Base year energy for energy type covered (MWh) | % renewable energy in base year | Target year | % renewable energy in target year | Comment |
|----|--------------------------------|-----------|--|---------------------------------|-------------|-----------------------------------|---------|
|----|--------------------------------|-----------|--|---------------------------------|-------------|-----------------------------------|---------|

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

| ID | % complete (time) | % complete (emissions or renewable energy) | Comment |
|----|-------------------|--|---------|
|----|-------------------|--|---------|

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

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

CC3.2a

Please 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 | Description of product/Group of products | Are you reporting low carbon product/s or avoided emissions? | Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions | % revenue from low carbon product/s in the reporting year | % R&D in low carbon product/s in the reporting year | Comment |
|----------------------|--|--|---|---|---|---------|
| Group of products | urkcell 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. So far, under Turkcell's Corporate Win Program, Turkcell has provided \$ 13.6 million to their customers and have helped those brands with whom they collaborate to grow Cloud computing based services has exceeded 1.7 million users. Cloud technology reduces the server related costs and increases the capacity of the servers. | Avoided emissions | Other: | 3% | Less than or equal to 10% | |

CC3.3

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

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

| Stage of development | Number of projects | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---------------------------|--------------------|--|
| Under investigation | | |
| To be implemented* | 9 | 1072 |
| Implementation commenced* | | |
| Implemented* | 12 | 9800 |
| Not to be implemented | | |

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

| Activity type | Description of activity | Estimated annual CO2e savings (metric tonnes CO2e) | Scope | Voluntary/Mandatory | Annual monetary savings (unit currency - as specified in CC0.4) | Investment required (unit currency - as specified in CC0.4) | Payback period | Estimated lifetime of the initiative | Comment |
|------------------------------------|---|--|--------------------------|---------------------|---|---|----------------|--------------------------------------|---------|
| Low carbon energy installation | Installing rectifier management system | 250 | Scope 2 (location-based) | Voluntary | 100000 | 35000 | <1 year | 6-10 years | |
| Energy efficiency: Processes | Installaton of new control cards for diesel generator management | 85 | Scope 1 | Voluntary | 75000 | 150000 | 1-3 years | 3-5 years | |
| Energy efficiency: Processes | Installation of Free cooling systems in base stations | 95 | Scope 2 (location-based) | Voluntary | 75000 | 650000 | 1-3 years | 11-15 years | |
| Energy efficiency: Processes | Replacement of air conditioning with energy efficiency inverter systems | 800 | Scope 2 (location-based) | Voluntary | | | 4-10 years | 6-10 years | |
| Energy efficiency: Processes | Incrrasing operating temperatures and air condition system set temperatures | 4500 | Scope 2 (location-based) | Voluntary | | | <1 year | 6-10 years | |
| Energy efficiency: Processes | Cabinet Swamp | 240 | Scope 2 (location-based) | Voluntary | | | 4-10 years | 6-10 years | |
| Energy efficiency: Processes | Use of outdoor cabinets for saving air conditioning demand | 45 | Scope 2 (location-based) | Voluntary | | | 1-3 years | 11-15 years | |
| Energy efficiency: Building fabric | Revising designs of cabinets and system rooms purchased in 2016 | 30 | Scope 2 (location-based) | Voluntary | | | 1-3 years | 11-15 years | |

| Activity type | Description of activity | Estimated annual CO2e savings (metric tonnes CO2e) | Scope | Voluntary/ Mandatory | Annual monetary savings (unit currency - as specified in CC0.4) | Investment required (unit currency - as specified in CC0.4) | Payback period | Estimated lifetime of the initiative | Comment |
|--------------------------------------|--|--|--------------------------|----------------------|---|---|----------------|--------------------------------------|---------|
| Energy efficiency: Building services | Rehabilitation chiller and pumping systems in Ankara and Diyarbakır buildings. | 100 | Scope 2 (location-based) | Voluntary | | | 4-10 years | 11-15 years | |
| Energy efficiency: Building services | LED lighting in several office buildings | 160 | Scope 2 (location-based) | Voluntary | | | 1-3 years | 3-5 years | |
| Low carbon energy installation | Replacing air conditioning systems in DC&NDC with more efficient equipment | | Scope 2 (location-based) | Voluntary | | | 1-3 years | 6-10 years | |

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

| Method | Comment |
|--|--|
| Dedicated budget for energy efficiency | Turkcell has established 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. Turkcell energy efficiency initiatives throughout 2014 saved 15.9 million kWh (equivalent to the annual energy consumption of 5,900 households), demonstrating our respect for the environment. |

| Method | Comment |
|--------|--|
| | 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. |
| Other | Turkcell set Cisco systems to utilize video conferances to reduce business related impacts on environment. In 2015, over 69000 meeting was realised over cisco systems. |

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

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 | Status | Page/Section reference | Attach the document | Comment |
|---|----------|------------------------|---|---|
| In mainstream reports (including an integrated report) but have not used the CDSB Framework | Complete | page 60 | https://www.cdp.net/sites/2017/45/21145/Climate Change 2017/Shared Documents/Attachments/CC4.1/UNGC_2016.pdf | Turkcell UN Global Compact Sustainability Report 2016 |

| Publication | Status | Page/Section reference | Attach the document | Comment |
|---|----------|------------------------|---|---|
| In mainstream reports (including an integrated report) but have not used the CDSB Framework | Complete | 1 | https://www.cdp.net/sites/2017/45/21145/Climate Change 2017/Shared Documents/Attachments/CC4.1/bist-surdurulebilirlik-endeksi-degerlemeye-tabi-sirketler-listesi-2017.pdf | In line with CDP, verified GHG emissions are disclosed in line with ISO standard. |
| In voluntary communications | Complete | | | http://www.turkcell.com.tr/tr/hakkimizda/sosyal-sorumluluk/surdurulebilirlik |

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--|---|----------------------------|--------------|-------------------------|----------------------|---------------------|--|---|--|
| Cap and trade schemes | Turkey has signed the agreement for Partnership for Market Readiness (PMR) and the Project implementation has started. The Project Development Objective (PDO) of the Partnership for Market Readiness Project (PMR Project) Implementation Phase is to assist Turkey implement a greenhouse gas Monitoring, Reporting, and Verification (MRV) pilot in the electricity sector, based on Turkey's MRV regulation, and to provide analytical information for the establishment of a carbon market in Turkey. | Increased operational cost | 3 to 6 years | Indirect (Supply chain) | Very likely | Low-medium | Electricity is major input and cost item for operation of base stations and data centers. Around 15% of operational costs are due to Energy consumption. Implementation of cap and trade schemes may increase cost of utility companies and thus cost of purchased electricity from suppliers. | Turkcell is implementing projects to reduce energy and emission intensity from all Operations. Those efforts include; - Improving cooling performance of equipment & natural cooling techniques -Using more Energy efficient equipment in base stations & data centers - Designing new Office&data centers as per green building (LEED etc.) standards - Installing solar & wind powered energy generation in base stations | Communication cost may increase by less than 1%. |
| Uncertainty surrounding new regulation | If Turkey joins the EU, it will implement the EU's Emission Trading | Increased capital cost | 3 to 6 years | Direct | More likely than not | Low-medium | Uncertainty and delay in action may cost increase in demand for | Regulations which may affect Turkcell Operations | Increasing R&D expenses and energy investment . |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|-------------|--|------------------|-----------|------------------|------------|---------------------|---|---|--|
| | <p>Scheme (EU-ETS) directive as a part of its acquis communautaire. According to the current schedule of the acquis, Turkey would need to transpose the EU ETS directive to Turkish law by 2019. Also, Turkey signed (to be ratified) the Paris agreement which is a more ambitious agreement than Kyoto Protocol but provides more flexible market mechanisms to meet emission reduction target. However, since there is no regulation or a roadmap for Carbon pricing, taxation or renewable energy certificates & pricing, investment strategy for energy efficiency & use of renewables in operations is</p> | | | | | | financing new investments and cost of compliance. | directly or indirectly are monitored. Strategies are developed for various scenarios. | Cost for current scenario is around \$100K for monitoring and compliance with regulations. |

| Risk driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|-----------------------------------|---|----------------------------|--------------|-----------------|------------|---------------------|--|---|---|
| | hampered. | | | | | | | | |
| Fuel/energy taxes and regulations | We are impacted by fuel prices and increasing energy taxes. We also demand energy to power the network and our operations. While we are making improvements in the efficiency of our operations and fleet, fuel/energy taxes and regulations could impact our company | Increased operational cost | 1 to 3 years | Direct | Likely | Low-medium | Cost of energy supply may increase by 10%. | Investment in alternative energy resources. | Increasing R&D expenses by 10% and increasing energy investment by 20%. |

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

| Risk driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|----------------|-----------------------------------|------------------------|--------------|-----------------|-------------|---------------------|----------------------------------|--|-----------------------|
| Change in mean | Turkcell has base stations in all | Increased capital cost | 1 to 3 years | Direct | Very likely | Medium-high | Around 16% of energy | Investing in new technology for design | Equipment investments |

| Risk driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|-----------------------|--|------------------|-----------|-----------------|------------|---------------------|---|--|-------------------------------|
| (average) temperature | <p>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. Problems may occur in Data Center feeding equipment/systems. These might be potential damage to network equipment and increased power to cool network equipment and result in reduced performance or disruption of the service. As a conclusion, it may require replacement of equipment with higher cooling capacity systems.</p> | | | | | | <p>consumption in base stations is due to cooling equipment. New higher capacity equipment investments will be needed to provide continuity of the services. This will increase both capital and operational costs.</p> | <p>of base stations, data centers considering future climate projections</p> | <p>increase by 10 to 20%.</p> |

| Risk driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|--------------|-----------------|-------------|---------------------|---|---|--|
| Change in precipitation extremes and droughts | Potential damage to network equipment and property from flooding or landslide due to increased precipitation intensity. Flooding will also affect access to sites for maintenance & repair of the equipment. | Reduction/disruption in production capacity | 1 to 3 years | Direct | Very likely | Medium-high | Increased cost due to flood prevention&resiliency measures in Critical infrastructure of the company. | Assessment of vulnerabilities of the Critical assets considering the climate related risks. | Related investments increase by 10 to 20%. |
| Change in temperature extremes | Fluctuations in temperatures make it difficult to predict energy needs for the year. Extreme temperatures and heat waves will create conditions beyond the design parameters of the system. As a result, this will cause performance loss or failure in quality of the services provided. | Reduced demand for goods/services | 3 to 6 years | Direct | Likely | Medium-high | Cost of improving resiliency will increase due to increased investment and operational costs. | Investing in new technology&infrastructure for monitoring the system performance, analyzing hazard risks and early warning. | Related investments increase by 10 to 20%. |

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|-------------|--|-----------------------------------|--------------|------------------|------------|---------------------|---|---|--|
| Reputation | ICT is one of the fastest growing sectors, carbon footprint of ICT services and products are increasing in parallel. Consumer awareness about environmental impact of services and products used is increasing and demand is shifting to greener and low Carbon services and products. If Turkcell can not respond to demands from its individual and corporate customers for greener, low carbon and energy efficient services, it can cause reputation loss and decrease demand for Turkcell services. | Reduced demand for goods/services | 1 to 3 years | Direct | Likely | Low-medium | Changing consumer demand for Turkcell services and decreasing revenues. | Increasing climate centered public communication and disclosing information on Turkcell's performance on GHG reduction. Developing innovative services (M2M or remote reading etc) to respond demand and avoid emissions. | Increasing corporate communication costs by 2% |

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------------|---|--------------------------------|--------------|-----------------|-------------------|---------------------|--|--|---|
| International agreements | Global GHG emissions are increasing however, ICT provides a significant potential for emission reduction. GeSI Smarter 2020 report demonstrates how the increased use of information and communication technology (ICT) such as video conferencing and smart building management could cut the projected 2020 global greenhouse | New products/business services | 3 to 6 years | Direct | Virtually certain | Medium-high | Increase revenue, need of the product and product diversity due to new and value added services. | Dissemination of M2M services and developing new solutions for other sectors and cities. | Cost of R&D staff engaged in developing relevant solutions. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------|--|------------------|-----------|-----------------|------------|---------------------|----------------------------------|-------------------|--------------------|
| | <p>gas (GHG) emissions by 16.5%, amounting to \$1.9 trillion in gross energy and fuel savings and a reduction of 9.1 Gigatonnes carbon dioxide equivalent (GtCO₂e) of greenhouse gases. Turkcell provides machine to machine(M2M) solutions in many sectors including smart meter remote reading, fleet monitoring solutions, remote temperature control systems for transport services, diesel generator monitoring systems which help save Energy and reduce emissions.</p> | | | | | | | | |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------|---|------------------|-----------|-----------------|------------|---------------------|----------------------------------|-------------------|--------------------|
| | <p>Turkey signed Paris Climate Accord; the agreement encourages countries to scale up emission reduction activities. The Ministry of Environment and Urbanization of Turkey have started working on city level carbon inventories. Turkcell 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</p> | | | | | | | | |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|-----------------------------------|--|-----------------------------|--------------|-----------------|-------------------|---------------------|---|--|-----------------------------|
| | million TL from the Municipalities budget, annually. | | | | | | | | |
| Voluntary agreements | Turkcell is spending effort to reduce GHG emissions and thus Energy consumption. Reduced emissions in many cases correspond to reduced energy consumption and dependency on energy sources. Voluntary reporting initiatives, commitments and targets help in increasing the efficiency and saving operational costs. | Reduced operational costs | 1 to 3 years | Direct | Very likely | Medium-high | Reduced operational costs due to improved efficiency of the equipment used and services provided. Energy committee has been established within Turkcell to identify saving potentials, implement and monitor the results of the improvements. | Better monitoring of Energy consumption for facilities , equipment and vehicles. Collaboration with research institutions for ensuring environmental performance of equipment purchased. | Negligible additional cost. |
| Fuel/energy taxes and regulations | The potential of smart mobile applications (M2M) is | Premium price opportunities | Up to 1 year | Direct | Virtually certain | Medium-high | Increasing revenue and penetration to new sectors | Dissemination of M2M services and developing | Negligible |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------|---|------------------|-----------|-----------------|------------|---------------------|----------------------------------|----------------------------------|--------------------|
| | observed particularly in smart transportation and logistics with smart grids and meters. Turkcell is collaborating with all of the electricity distribution companies in Turkey and offering smart meter solutions. | | | | | | and implementation areas. | new solutions for other sectors. | |

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------------------|---|---|--------------|-----------------|------------|---------------------|--|--|---|
| Change in temperature extremes | Changes in mean temperature has in part prompted installation of new technology that itself allows Turkcell the | Increased demand for existing products/services | 3 to 6 years | Direct | Likely | Low | Increasing capital investment, reduced operational costs | Site assessments are made considering the reliability of the electricity grid, | Process is managed by Energy team of Turkcell. Investment costs and |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|--------------|------------------|-------------|---------------------|--|---|---|
| | opportunity to save money and emissions such as by using wind turbine power and network electricity alternately, and set up solar and wind power-operated communication units. | | | | | | | wind potential and solar potentials. Cost of disruption in services is also considered as a loss. | returns are assessed by financial team. |
| Change in precipitation extremes and droughts | In order to take advantage of this opportunity, under the Business Continuity Management System, solutions are actively developed for all of our customers to use in case of disasters or emergencies. Turkcell works on developing technologies to communicate effectively without any disruption to reduce risks in a event of disaster. Detailed information about some of these solutions, i.e. "Urgent SMS", "Disaster and | Increased demand for existing products/services | Up to 1 year | Direct | Very likely | Low-medium | Increasing revenue due to use of new services. | Increasing market penetration of the services and awareness about the services provided. | Negligible additional cost. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------------------------|--|---------------------------|--------------|------------------|-------------|---------------------|----------------------------------|---|---|
| | Emergency Service” and “Earthquake Service”. | | | | | | | | |
| Change in mean (average) temperature | Changes in mean temperature has in part prompted installation of new technology that itself allows Turkcell the opportunity to save money and emissions such as by introducing the newly-mounted free cooling equipment. | Reduced operational costs | Up to 1 year | Direct | Very likely | | Increasing revenue | Site assessments are made considering the reliability of the electricity grid, weather conditions and performance of the equipments used in the facilities. | Process is managed by Energy team of Turkcell. Investment costs and returns are assessed by financial team. |

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------|---|---|--------------|------------------|-------------|---------------------|----------------------------------|--|--------------------|
| Reputation | Public awareness related to climate change will increase, the environmental performance of companies will become more of an | Increased demand for existing products/services | Up to 1 year | Direct | Very likely | Medium | Increasing revenue | Turkcell is reducing GHG emissions due to improvements in processes, equipments and facilities. In addition Turkcell is also | Negligible |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------|--|---|--------------|------------------|-------------|---------------------|----------------------------------|--|--------------------|
| | issue. Therefore, we aimed at increasing the awareness related to environment and climate change. | | | | | | | providing solutions which avoids GHG emissions. For communication with the clients and stakeholders, Turkcell will be disclosing more detailed information on the climate mitigation efforts in company reports and bulletins. | |
| | Level of environmental awareness is increased by Turkish customers. At the same time, competitors also more actively communicate their sustainability initiatives and products on the market. We highly expect this trend to continue and customers to ask about the company's ability to manage climate related issues such as energy and GHG emissions . | Increased demand for existing products/services | Up to 1 year | Direct | Very likely | Medium | Increasing revenue | Assessing the needs of the clients and developing new products for individual and institutional clients. | Negligible |
| Other | Increase demand | Increased | Up to 1 | Direct | Virtually | | Increasing | Revenue | Negligible |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------|--|--|--------------|------------------|-------------|---------------------|---|---|--------------------|
| drivers | for 'smart' solutions including smart grid and smart logistics from Governments and commercial customers. | demand for existing products/services | year | | certain | | revenue | management | |
| Other drivers | Energy efficiency is a very critical topic at Government's energy agenda. Depending on Government's level of ambition to take energy reduction target, energy prices are very likely to fluctuate. For this reason taken energy optimization measures by Turkcell is expected to reduce energy consumption hence save the budget. In this way electricity price risk can be converted to an opportunity. | Reduced operational costs | >6 years | Direct | Very likely | High | Less expenses for per kwh energy consumption. | Optimization of physical network, free cooling, changes in HEPA filters, | |
| Other drivers | Investor of Turkcell are not only interested in financial performance but also nonfinancial | Increased stock price (market valuation) | 1 to 3 years | Direct | Very likely | High | Increasing revenue | Disclosing information to all investors through user-friendly, up-to-date website, Investor Relations | Negligible |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|--------------------|---|------------------|-----------|------------------|------------|---------------------|----------------------------------|--|--------------------|
| | measures, such as sustainability. The BIST Sustainability Index provides the opportunity for companies to develop their risk management skills regarding corporate transparency and sustainability with accountability. Turkcell is involved in BIST Sustainability Index since 2014. This is directly linked with meeting demand for investors who seeks greener investments, hence increasing market value. | | | | | | | Application (IR App) and Twitter on a timely basis | |

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

| Scope | Base year | Base year emissions (metric tonnes CO2e) |
|---------|-----------------------------------|--|
| Scope 1 | Tue 01 Jan 2013 - Tue 31 Dec 2013 | 8391 |

| Scope | Base year | Base year emissions (metric tonnes CO2e) |
|--------------------------|-----------------------------------|--|
| Scope 2 (location-based) | Tue 01 Jan 2013 - Tue 31 Dec 2013 | 243054 |
| Scope 2 (market-based) | Tue 01 Jan 2013 - Tue 31 Dec 2013 | 0 |

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

| Please select the published methodologies that you use |
|---|
| The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) |
| IPCC Guidelines for National Greenhouse Gas Inventories, 2006 |
| ISO 14064-1 |
| US EPA Climate Leaders: Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment |
| Other |

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

GHG Protocol- GHG Emissions from Transport or Mobile Sources Tool Version 2.6
2012 Guidelines to DEFRA for DECC's GHG Conversion Factors for Company Reporting- EFs were used for Calculation of Waste Emissions

CC7.3

Please give the source for the global warming potentials you have used

| Gas | Reference |
|------|--|
| CO2 | IPCC Fifth Assessment Report (AR5 - 100 year) |
| CH4 | IPCC Fifth Assessment Report (AR5 - 100 year) |
| N2O | IPCC Fifth Assessment Report (AR5 - 100 year) |
| HFCs | Other: GHG: GWPs and Ozone Depletion Potentials of Some Ozone-Depleting Substances and Alternatives Listed by the SNAP Program |

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

| Fuel/Material/Energy | Emission Factor | Unit | Reference |
|----------------------|-----------------|------|-----------|
|----------------------|-----------------|------|-----------|

Further Information**Attachments**

Page: CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO₂e

8263

CC8.3

Please describe your approach to reporting Scope 2 emissions

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

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO₂e

| Scope 2, location-based | Scope 2, market-based (if applicable) | Comment |
|-------------------------|---------------------------------------|---------|
| 325436 | 0 | |

CC8.4

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

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

| Source | Relevance of Scope 1 emissions from this source | Relevance of location-based Scope 2 emissions from this source | Relevance of market-based Scope 2 emissions from this source (if applicable) | Explain why the source is excluded |
|--------|---|--|--|------------------------------------|
|--------|---|--|--|------------------------------------|

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

| Scope | Uncertainty range | Main sources of uncertainty | Please expand on the uncertainty in your data |
|--------------------------|---|---|--|
| Scope 1 | More than 2% but less than or equal to 5% | Data Gaps Assumptions Metering/ Measurement Constraints | For natural gas consumption, most of the measurements are made in terms of kWh which is more accurate but there are some locations, where measurement is made in m3 which may cause in change in NCVs due to seasonal changes in ambient temperature/volume of gas. We have made assumptions for emissions from fire extinguishers and refrigerants. WE have assumed that, all charged amount is equal to leaked amount which is a very conservative approach. |
| Scope 2 (location-based) | More than 2% but less than or equal to 5% | Data Gaps Metering/ Measurement Constraints | Grid emission factor for Turkey is not published officially. Therefore, different approaches or data sources can be used. We have used the 2015 emission and electricity generation data, which is the most recent and reliable data available. GHG emission data is sourced from national inventory and it is named as "public heat and electricity production". Hence, heating emissions is also included though its contribution may be insignificant. There is no residual mix calculation or location/supplier based EF data. |
| Scope 2 (market-based) | More than 2% but less than or equal to 5% | Data Gaps Metering/ Measurement Constraints | |

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

| Verification or assurance cycle in place | Status in the current reporting year | Type of verification or assurance | Attach the statement | Page/section reference | Relevant standard | Proportion of reported Scope 1 emissions verified (%) |
|--|--------------------------------------|-----------------------------------|---|------------------------|-------------------|---|
| Annual process | Complete | Reasonable assurance | https://www.cdp.net/sites/2017/45/21145/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Turkcell_CDP statement_docx.pdf | page 1 | ISO14064-3 | 100 |

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

| Regulation | % of emissions covered by the system | Compliance period | Evidence of submission |
|------------|--------------------------------------|-------------------|------------------------|
| | | | |

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

| Location-based or market-based figure? | Verification or assurance cycle in place | Status in the current reporting year | Type of verification or assurance | Attach the statement | Page/Section reference | Relevant standard | Proportion of reported Scope 2 emissions verified (%) |
|--|--|--------------------------------------|-----------------------------------|---|------------------------|-------------------|---|
| Location-based | Annual process | Complete | Reasonable assurance | https://www.cdp.net/sites/2017/45/21145/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Turkcell_CDP statement_docx.pdf | page-1 | ISO14064-3 | 100 |

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

| Additional data points verified | Comment |
|---------------------------------|---------|
| No additional data verified | |

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

No

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

| Country/Region | Scope 1 metric tonnes CO2e |
|----------------|----------------------------|
| | |

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By GHG type
By activity

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

| Business division | Scope 1 emissions (metric tonnes CO2e) |
|-------------------|--|
|-------------------|--|

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

| Facility | Scope 1 emissions (metric tonnes CO2e) | Latitude | Longitude |
|----------|--|----------|-----------|
|----------|--|----------|-----------|

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

| GHG type | Scope 1 emissions (metric tonnes CO2e) |
|----------|--|
|----------|--|

| GHG type | Scope 1 emissions (metric tonnes CO2e) |
|-------------|--|
| CO2 | 7592 |
| CH4 | 20 |
| N2O | 72 |
| Other: HCFC | 163 |
| Other: CFC | 137 |
| HFCs | 279 |

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

| Activity | Scope 1 emissions (metric tonnes CO2e) |
|----------------------------|--|
| Space Heating | 3323 |
| Transport | 3942 |
| Auxiliary Power Generation | 417 |
| Refrigerant | 579 |
| Fire Extinguishers | 2 |

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

No

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

| Country/Region | Scope 2, location-based (metric tonnes CO2e) | Scope 2, market-based (metric tonnes CO2e) | Purchased and consumed electricity, heat, steam or cooling (MWh) | Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh) |
|----------------|--|--|--|--|
|----------------|--|--|--|--|

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division
By facility

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

| Business division | Scope 2, location-based (metric tonnes CO2e) | Scope 2, market-based (metric tonnes CO2e) |
|--------------------------------------|---|---|
| Superonline POP | 6823 | |
| Turkcell Base Stations, Data Centers | 286943 | |
| Office Buildings | 69988 | |

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

| Facility | Scope 2, location-based (metric tonnes CO2e) | Scope 2, market-based (metric tonnes CO2e) |
|----------------------|---|---|
| HQ&Office Buildings | 69988 | |
| Base Stations | 248625 | |
| Data Centers | 14569 | |
| Network Data Centers | 23749 | |
| Superonline Pop | 6823 | |

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

| Activity | Scope 2, location-based (metric tonnes CO2e) | Scope 2, market-based (metric tonnes CO2e) |
|----------|--|--|
| | | |

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

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

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

| Energy type | MWh |
|--------------------|------------|
| Heat | 14975 |
| Steam | 0 |
| Cooling | 28979 |

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

39300

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

| Fuels | MWh |
|----------------|-------|
| Diesel/Gas oil | 23710 |
| Motor gasoline | 700 |
| Natural gas | 13500 |

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

| Basis for applying a low carbon emission factor | MWh consumed associated with low carbon electricity, heat, steam or cooling | Emissions factor (in units of metric tonnes CO2e per MWh) | Comment |
|---|---|---|---------|
| No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor | | | |

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

| Total electricity consumed (MWh) | Consumed electricity that is purchased (MWh) | Total electricity produced (MWh) | Total renewable electricity produced (MWh) | Consumed renewable electricity that is produced by company (MWh) | Comment |
|----------------------------------|--|----------------------------------|--|--|--|
| 657860 | 657410 | 450 | 450 | 450 | Electricity generated using auxiliary diesel generators are ignored. |

Further Information

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

CC12.1a

Please 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

| Reason | Emissions value (percentage) | Direction of change | Please explain and include calculation |
|--------------------------------|------------------------------|---------------------|---|
| Emissions reduction activities | 0.05 | Decrease | Replacement of equipment, new investment on EE and RE has caused slight decrease in emissions |
| Divestment | | | |
| Acquisitions | | | |
| Mergers | | | |

| Reason | Emissions value (percentage) | Direction of change | Please explain and include calculation |
|---|------------------------------|---------------------|--|
| Change in output | | | |
| Change in methodology | 2.5 | Increase | New electricity emission factor has been used in 2016 which has increased around electricity emission factor by 4.8% |
| Change in boundary | 3 | Increase | New data center and HQ building has been commissioned in 2016 |
| Change in physical operating conditions | 3 | Increase | Electricity consumption for cooling in data centers/stations has increased |
| Unidentified | | | |
| Other | | | |

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

| Intensity figure = | Metric numerator (Gross global combined Scope 1 and 2 emissions) | Metric denominator: Unit total revenue | Scope 2 figure used | % change from previous year | Direction of change from previous year | Reason for change |
|--------------------|--|--|---------------------|-----------------------------|--|--|
| 0.0000233 | metric tonnes CO2e | 14285561 | Location-based | 2.7 | Decrease | Main reason in absolute emissions is increase in scope 2 emissions due to establishment of new office and data center buildings whereas increase in revenue in TRY results in decrease in intensity. |

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

| Intensity figure = | Metric numerator (Gross global combined Scope 1 and 2 emissions) | Metric denominator | Metric denominator: Unit total | Scope 2 figure used | % change from previous year | Direction of change from previous year | Reason for change |
|--------------------|--|------------------------------|--------------------------------|---------------------|-----------------------------|--|--|
| 0.00945 | metric tonnes CO2e | Other: Number of Subscribers | 35300000 | Location-based | 11.2 | Increase | Main reason is increase in scope 2 emissions due to increasing electricity consumption |

Further Information

Page: **CC13. Emissions Trading**

CC13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

| Scheme name | Period for which data is supplied | Allowances allocated | Allowances purchased | Verified emissions in metric tonnes CO2e | Details of ownership |
|-------------|-----------------------------------|----------------------|----------------------|--|----------------------|
| | | | | | |

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

| Credit origination or credit purchase | Project type | Project identification | Verified to which standard | Number of credits (metric tonnes CO2e) | Number of credits (metric tonnes CO2e): Risk adjusted volume | Credits canceled | Purpose, e.g. compliance |
|---------------------------------------|--------------|------------------------|----------------------------|--|--|------------------|--------------------------|
|---------------------------------------|--------------|------------------------|----------------------------|--|--|------------------|--------------------------|

Further Information

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization’s Scope 3 emissions, disclosing and explaining any exclusions

| Sources of Scope 3 emissions | Evaluation status | metric tonnes CO2e | Emissions calculation methodology | Percentage of emissions calculated using data obtained from suppliers or value chain partners | Explanation |
|---|------------------------------------|--------------------|---|---|---|
| Purchased goods and services | Relevant, calculated | 9935 | Activity data (diesel consumption) was multiplied by emission factor of the fuel. | 100.00% | Fuel consumed in base stations for auxiliary generators within the scope of service provided by suppliers for maintenance of equipments in base stations. Calculations has been based on operating hours of generators and assuming 100% load which is very conservative. |
| Capital goods | Not relevant, explanation provided | 0 | None | 0.00% | There is no capital good emissions occuring within the reporting year. |
| Fuel-and-energy-related activities (not | Relevant, calculated | 47470 | Activity data (diesel, natural gas or electricity consumption) was | 100.00% | |

| Sources of Scope 3 emissions | Evaluation status | metric tonnes CO2e | Emissions calculation methodology | Percentage of emissions calculated using data obtained from suppliers or value chain partners | Explanation |
|--|------------------------------------|--------------------|---|---|---|
| included in Scope 1 or 2) | | | multiplied by emission factor | | |
| Upstream transportation and distribution | Relevant, calculated | 163 | Activity data (diesel consumption in vehicles) was multiplied by emission factor of the fuel. | 100.00% | Data obtained from logistics company distributing Turkcell products has been used |
| Waste generated in operations | Relevant, calculated | 151 | Type of wastes disposed has been obtained from company records and multiplied by relevant EFs | 100.00% | Defra database has been used for EFs of wastes |
| Business travel | Relevant, calculated | 3150 | Data for 2015 has been used for air travels which is based on ICAO tool. | 100.00% | 2015 data has been used for air travels. Road travel emissions are involved under scope 1 emissions from vehicles. Data not verified |
| Employee commuting | Relevant, calculated | 117 | Activity data (diesel consumption) was multiplied by emission factor of the fuel used in buses for employee commuting. | 100.00% | Data from subcontractor company responsible for employee commuting has been used. |
| Upstream leased assets | Relevant, calculated | 0 | Involved in scope 1 emissions | 100.00% | Involved in scope 1 |
| Downstream transportation and distribution | Relevant, calculated | 0 | Involved in "upstream transportation and distribution" | 100.00% | Distribution and logistics of upstream and downstream operations are managed by the same subcontractor(logistics company). Data provided in "upstream transportation and distribution" involved all activities on behalf of Turkcell. |
| Processing of sold products | Not relevant, explanation provided | 0 | Not applicable | 0.00% | There is no intermediary product sold by Turkcell which is processed. |
| Use of sold products | Relevant, calculated | 8416 | Total electricity consumption has been calculated via multiplying number of products sold, average consumption and assuming 8760h/year operation. | | Turkcell has sold approximately 2000000 units of smart devices (T-series) in 2016. Emissions are calculated assuming the devices are re-charged once per day and they were all used 365days in the reporting year. |

| Sources of Scope 3 emissions | Evaluation status | metric tonnes CO2e | Emissions calculation methodology | Percentage of emissions calculated using data obtained from suppliers or value chain partners | Explanation |
|--|------------------------------------|--------------------|---|---|--|
| End of life treatment of sold products | Relevant, calculated | 0 | Wastes are collected and disposed through licensed companies. Those are given under "Waste generated in operations " above. | 100.00% | Included under "Waste generated in operations " above. |
| Downstream leased assets | Not relevant, explanation provided | 0 | | 0% | There are no downstream leased assets for Turkcell. |
| Franchises | Not relevant, explanation provided | 0 | | 0% | Turkcell vendors do not operate in the form of franchises. Each vendor is a separate company. |
| Investments | Not relevant, explanation provided | 0 | | 0% | Turkcell İletişim A.Ş. operates in Turkey and reports within boundaries of Turkey. There are no domestic investments for Turkcell. |
| Other (upstream) | Not relevant, explanation provided | 0 | | 0% | There is no relevant upstream GHG emissions. |
| Other (downstream) | Not relevant, explanation provided | 0 | | 0% | There is no relevant downstream GHG emissions. |

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

| Verification or assurance cycle in place | Status in the current reporting year | Type of verification or assurance | Attach the statement | Page/Section reference | Relevant standard | Proportion of reported Scope 3 emissions verified (%) |
|--|--------------------------------------|-----------------------------------|---|------------------------|-------------------|---|
| Annual process | Complete | Reasonable assurance | https://www.cdp.net/sites/2017/45/21145/Climate Change 2017/Shared Documents/Attachments/CC14.2a/Turkcell_CDP statement_docx.pdf | page 1 | ISO14064-3 | 95 |

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

| Sources of Scope 3 emissions | Reason for change | Emissions value (percentage) | Direction of change | Comment |
|------------------------------|-----------------------|------------------------------|---------------------|---|
| Purchased goods & services | Change in methodology | 100 | Increase | emission source has been calculated under scope 1 emissions in previous reports |

| Sources of Scope 3 emissions | Reason for change | Emissions value (percentage) | Direction of change | Comment |
|---|-----------------------|------------------------------|---------------------|---------|
| Fuel- and energy-related activities (not included in Scopes 1 or 2) | Change in boundary | 3 | Increase | |
| Upstream transportation & distribution | Change in methodology | 88 | Decrease | |
| Waste generated in operations | Unidentified | 330 | Increase | |
| Employee commuting | Change in methodology | 98 | Decrease | |
| Use of sold products | Change in output | 181 | Increase | |

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Turkcell engages with the value chain in a number of different methods.

Turkcell attach importance to contribute the national economy and choose their suppliers from local companies. Indirectly Turkcell reduce its impact on the ecosystem. One of the strategy to prioritise the engagement is the established Ethic Procurement Rules to make the business relationships more transparent and standard. The rules are related in child labor, bribery, working hours, health, environment etc. Under the environmental rules green procurement principles were also determined. The suppliers are informed about the principles in written format, this enables suppliers to understand Turkcell's needs in energy efficient and environmentally friendly products. Turkcell also asks for the suppliers to commit to be compatible with the rules.

Secondly, Turkcell strives to develop more energy efficient technologies and products. In this way, Turkcell creates an energy awareness and attracts customers. Success is measured by the savings more peoples's engagement with energy efficient technologies. In 2015, Turkcell reached 1.9 Million M2M(MachineToMachine) subscribers who takes the advantages of remote managing and monitoring of their businesses. Turkcell offers to its customers thousands of vehicles which were

transformed into "smart vehicles" and an annual fuel saving worth approximately 1,5 billion TL has been achieved in 2015.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

| Type of engagement | Number of suppliers | % of total spend (direct and indirect) | Impact of engagement |
|--------------------------|---------------------|--|----------------------|
| Collaboration/innovation | 5 | 10% | |

CC14.4c

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

| Name | Job title | Corresponding job category |
|------|-----------------|-------------------------------|
| KAAN | CHIEF EXECUTIVE | Chief Executive Officer (CEO) |

| Name | Job title | Corresponding job category |
|-----------|-----------|----------------------------|
| TERZIOĞLU | OFFICER | |

Further Information

Module: ICT

Page: ICT1. Data center activities

ICT0.1a

Please identify whether "data centers" comprise a significant component of your business within your reporting boundary

Yes

ICT1.1

Please provide a description of the parts of your business that fall under "data centers"

DC are data centers that contain servers, storage backups and physical infrastructures of services that are managed by ICT (Information and Communication Technologies) department.

ICT1.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the data centers component of your business

| Business activity | Scope 1 emissions (metric tonnes CO2e) | Scope 2 emissions (metric tonnes CO2e) | Annual electricity consumption (MWh) | Electricity data collection method | Comment |
|-------------------|--|--|--------------------------------------|------------------------------------|---|
| Data centers | | 38318 | 77456 | Meter or submeter reading | Scope 1 emissions cannot be exactly differentiated since some of the DCs are settled within the office buildings. |

ICT1.3

What percentage of your ICT population sits in data centers where Power Usage Effectiveness (PUE) is measured on a regular basis?

| Percentage | Comment |
|------------|--|
| 100% | Power Usage Effectiveness (PUE) is measured on the regular basis for al DCs. |

ICT1.4

Please provide a Power Usage Effectiveness (PUE) value for your data center(s). You can provide this information as (a) an average, (b) a range or (c) by individual data center - please tick the data you wish to provide (tick all that apply)

Average

ICT1.4a

Please provide your average PUE across your data centers

| Number of data centers | Average PUE | % change from previous year | Direction of change | Comment |
|------------------------|-------------|-----------------------------|---------------------|---------|
| 26 | 1.7 | 1.64 | Decrease | |

ICT1.4b

Please provide the range of PUE values across your data centers

| Number of data centers | PUE Minimum Value | % change of PUE Minimum Value from previous year | PUE Maximum Value | % change of PUE Maximum Value from previous year | Direction of change | Comment |
|------------------------|-------------------|--|-------------------|--|---------------------|---------|
|------------------------|-------------------|--|-------------------|--|---------------------|---------|

ICT1.4c

Please provide your PUE values of all your data centers

| Data center reference | PUE value | % change from previous year | Direction of change | Comment |
|-----------------------|-----------|-----------------------------|---------------------|---------|
|-----------------------|-----------|-----------------------------|---------------------|---------|

ICT1.5

Please provide details of how you have calculated your PUE value

Green Grid, or Total Facility Power divided by IT Equipment Power

ICT1.6

Do you use any alternative intensity metrics to assess the energy or emissions performance of your data center(s)?

No

ICT1.6a

Please provide details on the alternative intensity metrics you use to assess the energy or the emissions performance of your data center(s)

ICT1.7

Please identify the measures you are planning or have undertaken in the reporting year to increase the energy efficiency of your data center(s)

| Status in reporting year | Energy efficiency measure | Comment |
|--------------------------|-------------------------------|---------|
| Planned | Power Management Efficiencies | |
| Implemented | Power Management Efficiencies | |

ICT1.8

Do you participate in any other data center efficiency schemes or have buildings that are sustainably certified or rated?

Yes

ICT1.8a

Please provide details on the data center efficiency schemes you participate in or the buildings that are sustainably certified or rated

| Scheme name | Level/certification (or equivalent) achieved in the reporting year | Percentage of your overall facilities to which the scheme applies |
|-------------|---|---|
| LEED | Leed Gold http://www.usgbc.org/projects/turkcell-gebze-datacenter | |

ICT1.9

Do you measure the utilization rate of your data center(s)?

Yes

ICT1.9a

What methodology do you use to calculate the utilization rate of your data center(s)?

ICT1.10

Do you provide carbon emissions data to your clients regarding the data center services they procure?

No

ICT1.10a

How do you provide carbon emissions data to your clients regarding the data center services they procure?

ICT1.11

Please describe any efforts you have made to incorporate renewable energy into the electricity supply to your data center(s) or to re-use waste heat

Electricity suppliers are preferred among companies which have renewable energy generation facilities.

Further Information

Page: ICT2. Provision of network/connectivity services

ICT0.1b

Please identify whether "provision of network/connectivity services" comprises a significant component of your business within your reporting boundary

Yes

ICT2.1

Please provide a description of the parts of your business that fall under "provision of network/connectivity services"

NDC are network data centers. They consist of switching centers and databases like MSC, HLR, MGW etc. MSC (Mobile Switching Center) servers are swithing units used in mobile networks. This structural element is a telephone exchange that enables connection between mobile users in same or different networks. MSC also enables conection between mobile network and public switched telephone network. While enabling these connections MSC uses other servers and databases lika MGW (Media Gateway), HLR (Home Location Register) and VLR (Visitor Location Register). Network data centers of Turkcell network are located in Adana, Adapazarı, Ankara, Antalya, Balıkesir, Bursa, Denizli, Diyarbakır, Erzurum, Eskişehir, Gaziantep, Hatay, İstanbul, İzmir, Kayseri, Kocaeli, Konya, Malatya, Manisa, Mersin, Muğla, Samsun, Tekirdağ, Trabzon, Van, Zonguldak.

ICT2.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the provision of network/connectivity services component of your business

| Business activity | Scope 1 emissions (metric tonnes CO2e) | Scope 2 emissions (metric tonnes CO2e) | Annual electricity consumption (MWh) | Electricity data collection method | Comment |
|--|--|--|--------------------------------------|------------------------------------|---------|
| Provision of network/connectivity services | | 23749 | 48007 | Meter or submeter reading | |

ICT2.3

Please describe your gross combined Scope 1 and 2 emissions or electricity use for the provision of network/connectivity services component of your business as an intensity metric

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change | Comment |
|------------------|--------------------|--------------------|-----------------------------|--|--|---------|
| 0.00067 | metric tonnes CO2e | Subscriber | 13 | Increase | Increase in electricity consumption due to new facilities. | |

ICT2.4

Please explain how you calculated the intensity figures given in response to Question ICT2.3

Electricity consumption of network data centers is divided into the total subscriber of Turkcell which is 35.3 million in 2016.

ICT2.5

Do you provide carbon emissions data to your clients regarding the network/connectivity services they procure?

No

ICT2.5a

How do you provide carbon emissions data to your clients regarding the network/connectivity services they procure?

Further Information

Page: ICT3. Manufacture or assembly of hardware/components

ICT0.1c

Please identify whether "manufacture or assembly of hardware/components" comprises a significant part of your business within your reporting boundary

No

ICT3.1

Please provide a description of the parts of your business that fall under "manufacture or assembly of hardware/components"

ICT3.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the manufacture or assembly of hardware/components part of your business

| Business activity | Scope 1 emissions (metric tonnes CO2e) | Scope 2 emissions (metric tonnes CO2e) | Annual electricity consumption (MWh) | Electricity data collection method | Comment |
|-------------------|--|--|--------------------------------------|------------------------------------|---------|
|-------------------|--|--|--------------------------------------|------------------------------------|---------|

ICT3.3

Please identify the percentage of your products meeting recognized energy efficiency standards/specifications by sales weighted volume (full product range)

| Product type | Standard (sleep mode) | Percentage of products meeting the standard by sales volume (sleep mode) | Standard (standby mode) | Percentage of products meeting the standard by sales volume (standby mode) | Standard (in use mode) | Percentage of products meeting the standard by sales volume (in use mode) | Comment |
|--------------|-----------------------|--|-------------------------|--|------------------------|---|---------|
|--------------|-----------------------|--|-------------------------|--|------------------------|---|---------|

ICT3.4

Of the new products released in the reporting year, please identify the percentage (as a percentage of all new products in that product type category) that meet recognized energy efficiency standards/specifications

| Product type | Standard (sleep mode) | Percentage of new products meeting the standard (sleep mode) | Standard (standby mode) | Percentage of new products meeting the standard (standby mode) | Standard (in use mode) | Percentage of new products meeting the standard (in use mode) | Comment |
|--------------|-----------------------|--|-------------------------|--|------------------------|---|---------|
|--------------|-----------------------|--|-------------------------|--|------------------------|---|---------|

ICT3.5

Please describe the efforts your organization has made to improve the energy efficiency of your products

ICT3.6

Please describe the GHG emissions abatement measures you have employed specifically in your ICT manufacturing operations

ICT3.7

Do you provide carbon emissions data to your clients regarding the hardware/component products they procure?

ICT3.7a

How do you provide carbon emissions data to your clients regarding the hardware/component products they procure?

Further Information

Page: ICT4. Manufacture of software

ICT0.1d

Please identify whether "manufacture of software" comprises a significant component of your business within your reporting boundary

No

ICT4.1

Please provide a description of the parts of your business that fall under "manufacture of software"

ICT4.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the software manufacture component of your business

| Business activity | Scope 1 emissions (metric tonnes CO2e) | Scope 2 emissions (metric tonnes CO2e) | Annual electricity consumption (MWh) | Electricity data collection method | Comment |
|-------------------|--|--|--------------------------------------|------------------------------------|---------|
|-------------------|--|--|--------------------------------------|------------------------------------|---------|

ICT4.3

Please describe your gross combined Scope 1 and 2 emissions for the software manufacture component of your business in metric tonnes CO2e per unit of production

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change | Comment |
|------------------|------------------|--------------------|-----------------------------|--|-------------------|---------|
|------------------|------------------|--------------------|-----------------------------|--|-------------------|---------|

ICT4.4

What percentage of your software sales (by volume) is in an electronic format?

ICT4.5

Do you provide carbon emissions data to your clients regarding the software products they procure?

ICT4.5a

How do you provide carbon emissions data to your clients regarding the software products they procure?

Further Information

ICT0.1e

Please identify whether "business services (office based activities)" comprise a significant component of your business within your reporting boundary

Yes

ICT5.1

Please provide a description of the parts of your business that fall under "business services (office based activities)"

Turkcell facilitates several offices and buildings in order to manage project cycles. Telecom solutions for digital transformation, troubleshooting, customer tailored application and software development, business development, sales and site management units are office based activities.

ICT5.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the business services (office based activities) component of your business

| Business activity | Scope 1 emissions (metric tonnes CO2e) | Scope 2 emissions (metric tonnes CO2e) | Annual electricity consumption (MWh) | Electricity data collection method | Comment |
|---|--|--|--------------------------------------|------------------------------------|---|
| Business services (office based activities) | 4258 | 92841 | 187674 | Meter or submeter reading | Scope 1 emissions involve all sources including fuel for heating, diesel generators, refrigerators and fire extinguishers |

ICT5.3

Please describe your gross combined Scope 1 and 2 emissions for the business services (office based activities) component of your business in metric tonnes per square meter

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change | Comment |
|------------------|--------------------|--------------------|-----------------------------|--|-------------------|---------|
| | metric tonnes CO2e | Square meter | | | | |

ICT5.4

Please describe your electricity use for the provision of business services (office based activities) component of your business in MWh per square meter

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change | Comment |
|------------------|------------------|--------------------|-----------------------------|--|-------------------|---------|
| | MWh | Square meter | | | | |

Further Information

Page: ICT6. Other activities

ICT0.1f

Please identify whether "other activities" comprise a significant component of your business within your reporting boundary

No

ICT6.1

Please provide a description of the parts of your business that fall under "other"

ICT6.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the identified other activity component of your business

| Activity | Scope 1 emissions (metric tonnes CO2e) | Scope 2 emissions (metric tonnes CO2e) | Annual electricity consumption (MWh) | Electricity data collection method | Comment |
|----------|---|---|---|---------------------------------------|---------|
|----------|---|---|---|---------------------------------------|---------|

ICT6.3

Please describe your gross combined Scope 1 and 2 emissions for your defined additional activity using an appropriate activity based intensity metric

| Activity | Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change | Comment |
|----------|------------------|------------------|--------------------|-----------------------------------|--|-------------------|---------|
|----------|------------------|------------------|--------------------|-----------------------------------|--|-------------------|---------|

ICT6.4

If appropriate, please describe your electricity use for your defined additional activity using an appropriate activity based intensity metric

| Activity | Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change | Comment |
|----------|------------------|------------------|--------------------|--------------------------------------|--|-------------------|---------|
|----------|------------------|------------------|--------------------|--------------------------------------|--|-------------------|---------|

Further Information

CDP 2017 Climate Change 2017 Information Request