

CDP Climate Change and Water Report 2018 Turkey Edition

Written on behalf of over 650 institutional investors with US\$87 trillion in assets



CEO FOREWORD



We know that business is key in enabling the global economy to achieve – and exceed – its climate goals. The continued action of these entities will be vital as we go through 2019, the final year before nations update their national climate plans for the Paris Agreement and just as global emissions need to peak.



2018 was another momentous year for action on climate change. The landmark report from the Intergovernmental Panel on Climate Change (IPCC) underlined the urgent need to bend the curve on global greenhouse gas emissions. Meanwhile the UN Environment Programme offered a stark reminder of the gap between where we are now and where we need to be. The choice facing companies and investors has never been clearer: seize the opportunities of the low-carbon transition or continue business as usual and face untold risks.

Against this backdrop, it is encouraging that 2018 saw a quickening pace of climate action. We saw more companies disclose their environmental data, and more set stretching targets to reduce emissions. Eighteen years ago, when CDP started, climate disclosure was non-existent in capital markets. In 2018, over 7,000 companies, worth more than 50% of global market capitalization disclosed environmental data through our platform. That's an 11% jump on the previous year. Environmental disclosure further entered the mainstream with the FSB's Task Force on Climate-related Financial Disclosure (TCFD), which built on the work of CDP and paves the way for mandatory climate-related disclosures across all G20 countries over time. Through our upgraded disclosure platform, which incorporates the TCFD's recommendations, the 7,000 companies disclosing this year have aligned their disclosures with those recommendations (72% of the listed companies that disclosed through CDP were able to answer between 21 and 25 of the 25 new TCFD questions).

As we have long believed, where there is greater transparency, greater action follows. As showcased by 2018's Global Climate Action Summit, leaders from across the worlds of business and finance are taking the urgent steps required to build a sustainable future for all. The summit was an important and timely reminder of the progress we are seeing across the real economy.

From the 500 companies that are now committed to set science-based emissions reductions targets; to those moving toward 100% renewable electricity; and the investors stepping up to shift their investments to low-carbon, we are seeing tremendous progress in the right direction.

But there is no time for complacency. There are still some serious hurdles in the race towards Paris Agreement implementation. In October 2018,

Brazil elected a president whose policies threaten the future of the Amazon rain forest, one of the world's biggest carbon sinks. Meanwhile in the US, President Trump continues to ignore stark warnings on the damage climate change will inflict on the US economy, instead pushing through deregulation and attempting to resurrect the coal industry.

There's also no denying the reality of intensifying climate impacts. From a Europe-wide heatwave to record droughts in Cape Town, hurricanes in the Americas and wildfires in the Arctic, 2018's extreme weather events brought enormous costs to both capital markets and wider society.

To stay below the 1.5°C guardrail, the IPCC tells us the global economy needs to reach net zero-carbon by mid-century and halve emissions by 2030, compared with 2010 levels. This represents nothing short of a complete transformation of the global economy. It is going to take unprecedented co-operative action between companies, investors, cities, states and governments across all sectors.

We know that business is key in enabling the global economy to achieve – and exceed – its climate goals. The continued action of these entities will be vital as we go through 2019, the final year before nations update their national climate plans for the Paris Agreement and just as global emissions need to peak.

This is the time for businesses to ramp up action and send a clearer signal to governments that they need the policy ambition to match. Business as usual is no longer an option, but a prosperous and sustainable low-carbon future is achievable, if we choose to rise to the challenge. We must, we can and I believe we will.

Paul Simpson
CEO, CDP

SPONSOR FOREWORD



As we all witness globally, the urgency is getting alarmingly clearer everyday. According to a recently published UN Report, there is a very sharp increase in the number of climate-related events, which are actually creating 77% of the total direct economic losses caused by disasters. The World Bank has calculated that the real cost to the global economy is a staggering USD 520 billion per annum, with disasters pushing 26 million people into poverty every year. The reported loss of resources and assets like homes, factories and farms due to more frequent and widespread climate-related disasters rose 151% compared to the previous 20-year period. More importantly, in the last two decades, 1.3 million people have been killed and 4.4 billion were impacted by natural disasters worldwide. We observe a similar trend in Turkey as well. According to the most recent report released by the Turkish State Meteorological Service, 598 extraordinary weather events occurred in Turkey in 2017, which indicates that there is a 4-event increase per year since 2000.

As a country in the drought zone, Turkey will experience severe droughts and heatwaves in addition to extreme precipitation and floods. Turkey is among the countries that will be extremely water-stressed by 2040. If projections come true, with the expected population growth to 100 million people, Turkey will be among the water poor countries by 2030.

Following these devastating events, we see an increasing trend in the public awareness as well. Very recently, 1.4 million students from all over the world walked out of schools on March 15th

to be heard and to take a stand for global climate action. This fascinating collective effort was truly inspirational for many others. The youth knows that the solution lies in our hands. Next year, Generation Z will make up %38 of the global workforce and %40 of the total consumers. Businesses, which fail to meet the expectations of Generation Z, will face significant consequences such as loss of brand reputation, failure to attract new talents, inability to assess environmental and social risks, as well as missing out on the opportunities in new markets. We have reached such a point in history that we have the technical capability and extensive know-how on how to tackle global problems like poverty, hunger, inequality and of course climate change. As the business world we all need to put climate change at the top of our agendas.

On the other hand, 2018 had been a challenging year for Turkish economy. We observed strong growth rates in the first half of the year; however, we witnessed a highly volatile second half due to both internal and external developments. Yet we continued to see an even stronger commitment and determination in the Turkish business world for climate change mitigation and adaptation.

In such an environment the commitment of companies is crucial more than ever. We are truly grateful for all companies in Turkey that respond to CDP and contribute to our country's battle against climate change by showing leadership, taking responsibility and committing to ambitious targets.

Ali Fuat Erbil
Board Member & CEO, Garanti Bank

PARTNER FOREWORD



This year marks the 9th year of CDP operations in Turkey and the 4th year of Deloitte's as a partner of the event, originally to lead the scoring methodology and this year to support on the reporting aspects of the project. We are very pleased to be able to continue to support the CDP, the importance of which grows with each passing year.

We believe that creating value for life and the environment also means making a positive impact on the business too. In fact, successful businesses benefit from the fair use of natural resources. The companies that create and follow a strategy mapping the environmental risks to their operations will be successful in reaching their targets and ultimate goals not only in the short-term but also long-term.

Today, we know that three of the top five risks (extreme weather events, failure of climate change mitigation and adaptation, natural disasters) to the global economy, originate from environmental risks. These risks are also linked to other risks that

impact the global economy in many diverse ways. It is crucial for companies to prioritize climate change in their agenda and assess the many impacts that may occur from not making a clear commitment to reduce their carbon footprint. Business needs to take the lead in this area given the increasing acceptance that it is lack of political will, as opposed to technological capability that poses the greatest risk to failure of meeting the targets of the COP21 Paris Agreement, which in any event should be seen as a bare minimum.

Deloitte has over 800 sustainability and climate change professionals globally delivering services to clients in more than 50 countries, and we have established our own science-based carbon reduction goals. We are proud to support our clients' climate change and sustainability strategies and to work with them on finding suitable solutions that support the environment and are aligned with their key business objectives.

Humphry Hatton
CEO, Deloitte Turkey

INTRODUCTION



Climate Change has become a de facto board matter with 95% of companies ensuring board oversight of climate-related issues and 92% integrating climate-related issues to their business strategy.

As we wrap-up the 9th year of CDP operations in Turkey and prepare for the 10th, we report an improvement in almost all areas of climate change performance in 2018. Climate Change has become a de facto board matter with 95% companies ensuring board oversight of climate-related issues and 92% integrating climate-related issues to their business strategy. More notably, we observe a significant change in companies' assessments of risks and opportunities related to Climate Change. 'Reputation' is now considered a major risk according to 98% of the respondents compared with only 50% a year ago. 'Market' risks are also highlighted as a major risk by 86% of respondents. Related to this renewed assessment of risks, 'products and services' have been noted by 73% of the respondents as the most compelling opportunity. The emphasis on opportunities related with products and services resonates with the increase in the percentage of respondents that engage with companies in their value chain on climate change issues to 41%. These figures help to explain why climate change has become a board matter.

Companies that responded to Climate Change disclosure requests also reported their water risks through CDP Water even if they were not in the official water sample, which includes companies exposed to higher waters risks. 31% of the responding companies report experiencing climate change related impacts on water. Furthermore, as high as 69% report engaging with their suppliers on water-related issues. 'Water quality' and 'water availability at the basin' are the main concerns of 88% of the respondents. Companies are also aware and concerned about the impact of water issues on their environment. 'Status of ecosystems and habitats' and 'stakeholder conflicts at a basin' are identified as serious risks by 73% and 62% of the respondents respectively.

Coupled with the significant increase in assurance and verification of emissions to 75% for Scope 1 and 2 emissions and a remarkable 41% for Scope 3 emissions, these figures suggest that 2018 was the tipping point for Turkey's leading companies' understanding of the severity of Climate Change as well as their response to it.

In Turkey, invitations to disclose Climate Change information is sent to BIST100 companies on behalf of investors. BIST100 represent 83% of the total market cap of Borsa Istanbul. Companies that accept the invitation to disclose to CDP represent 52% of the official sample and 43% of the total market cap, which is close to the global figure of 50%. These figures place Turkey's largest companies on par with the globe's leading firms.

Although we are happy to see that the majority of Turkey's and the world's economically significant businesses are on the right track, a 2-degree scenario is a long way off. This is primarily due to failures in public governance. National governments, trapped in populist politics or linked to vested interests, tend to drag their feet. This deficiency necessitates that companies take the lead and engage with lawmakers to influence public policy on climate-related issues. We are, therefore, not surprised to see a significant increase in the ratio of companies engaging with policymakers, which is up to 86% in 2018 compared with 70% in 2017.

On the other hand, all around the world, we observe an upsurge of local efforts where national governments fail. Many big cities, including Paris, Tokyo, and London, are committed to carbon-neutral local economies. For example, California, the world's 5th largest economy, has decided to make a complete transition to renewables and zero emissions electricity while their own federal government remains the most combative member of the Paris Agreement signatories. In 2018, 2,500 cities have taken 12,500 concrete actions to transform their economies to carbon-neutral, which are registered in the UN's Non-State Actor Zone for Climate Action. In 2018, 620 cities reported climate actions to CDP, including Eskişehir and Istanbul, which developed a comprehensive Climate Change Action Plan (see <https://www.iklim.istanbul/>). We hope that the 2019 local elections will be the beginning of a 'race to the top' for local climate activism via the newly-elected mayors.

We see a major role for companies and business associations in Turkey in conjunction with global trends to transform the economy to a more sustainable one and avert catastrophic climate change:

- Engagements between businesses and local governments at the subnational level for climate action
- Engagements between businesses and policymakers/ regulators at the national level for effective implementation of the Paris Agreement

Climate change cannot be tackled by local governments, states, or businesses alone. Bottom-up approaches need to be coupled with top-down efforts to ensure attempts at the local level don't create externalities elsewhere. In order to capitalize on any potential to save the planet, a concerted, global response from all involved actors, as well as the engagement of others to join the movement, will be required.

Melsa Ararat

Director, Sabancı University Corporate Governance Forum

CONTENTS

| | |
|----|--|
| 6 | RESPONDING COMPANY LIST / CLIMATE CHANGE / TURKEY 2018 |
| 7 | RESPONDING COMPANY LIST / WATER SECURITY / TURKEY 2018 |
| 8 | SNAPSHOT / CLIMATE CHANGE / TURKEY 2018 |
| 9 | SNAPSHOT / WATER / TURKEY 2018 |
| 10 | KEY FINDINGS / CLIMATE CHANGE |
| 11 | KEY FINDINGS / WATER SECURITY |
| 12 | A NEW ERA FOR CDP |
| 14 | COMPANY RESPONSE SUMMARY / CLIMATE CHANGE / TURKEY 2018 |
| 16 | COMPANY RESPONSES OVERVIEW / CLIMATE CHANGE / TURKEY 2018 |
| 24 | COMPANY RESPONSE SUMMARY / WATER / TURKEY 2018 |
| 26 | COMPANY RESPONSES OVERVIEW / WATER / TURKEY 2018 |
| 33 | CDP TURKEY LEADERS / 2018 |
| 33 | WE MEAN BUSINESS COMMITMENTS / TURKEY 2018 |
| 34 | CDP SCORING METHODOLOGY |
| 36 | RESPONSE STATUS / CLIMATE CHANGE / TURKEY 2018 |
| 40 | RESPONSE STATUS / WATER / TURKEY 2018 |
| 42 | CDP PARTNER IN TURKEY |

RESPONDING COMPANY LIST

CLIMATE CHANGE / TURKEY 2018

| Official Sample (BIST-100 Companies) | |
|---|--|
| AFYON ÇİMENTO SANAYİ T.A.Ş. | NETAŞ TELEKOMÜNİKASYON A.Ş. |
| AKBANK T.A.Ş. | PEGASUS HAVA TAŞIMACILIĞI A.Ş. |
| AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. | POLİSAN HOLDİNG A.Ş. |
| AKENERJİ ELEKTRİK ÜRETİM A.Ş. | SODA SANAYİ A.Ş. |
| AKSA AKRİLİK KİMYA SANAYİİ A.Ş. | ŞEKERBANK T.A.Ş. |
| ANADOLU CAM SANAYİİ A.Ş. | T.GARANTİ BANKASI A.Ş. |
| ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş. | T.SINAI KALKINMA BANKASI A.Ş. |
| ARÇELİK A.Ş. | T.ŞİŞE VE CAM FABRİKALARI A.Ş. |
| ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş. | TAV HAVA LİMANLARI HOLDİNG A.Ş. |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | TEKFEN HOLDİNG A.Ş. |
| COCA-COLA İÇECEK A.Ş. | TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. |
| ÇELEBİ HAVA SERVİSİ A.Ş. | TRAKYA CAM SANAYİİ A.Ş. |
| ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş. | TURKCELL İLETİŞİM HİZMETLERİ A.Ş. |
| ENKA İNŞAAT VE SANAYİ A.Ş. | TÜRK TELEKOMÜNİKASYON A.Ş. |
| FORD OTOMOTİV SANAYİ A.Ş. | TÜRKİYE HALK BANKASI A.Ş. |
| GSD HOLDİNG A.Ş. | TÜRKİYE VAKIFLAR BANKASI T.A.O. |
| KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş. | VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş. |
| KORDSA TEKNİK TEKSTİL A.Ş. | YAPI VE KREDİ BANKASI A.Ş. |
| MİGROS TİCARET A.Ş. | ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş. |

| Other Responding Companies |
|--|
| ALBARAKA TÜRK KATILIM BANKASI A.Ş. |
| DURAN DOĞAN BASIM VE AMBALAJ A.Ş. |
| EKOTEN SANAYİ VE TEKSTİL A.Ş. |
| KAYSERİ ULAŞIM A.Ş. |
| PINAR ENTEGRE ET VE UN SANAYİİ A.Ş. |
| PINAR SÜT MAMULLERİ SANAYİİ A.Ş. |
| SUN SANAYİ VE TEKSTİL A.Ş. |
| VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş. |
| YÜNSA YÜNLÜ SANAYİ VE TİCARET A.Ş. |
| ZORLU DOĞAL ELEKTRİK ÜRETİMİ A.Ş. |

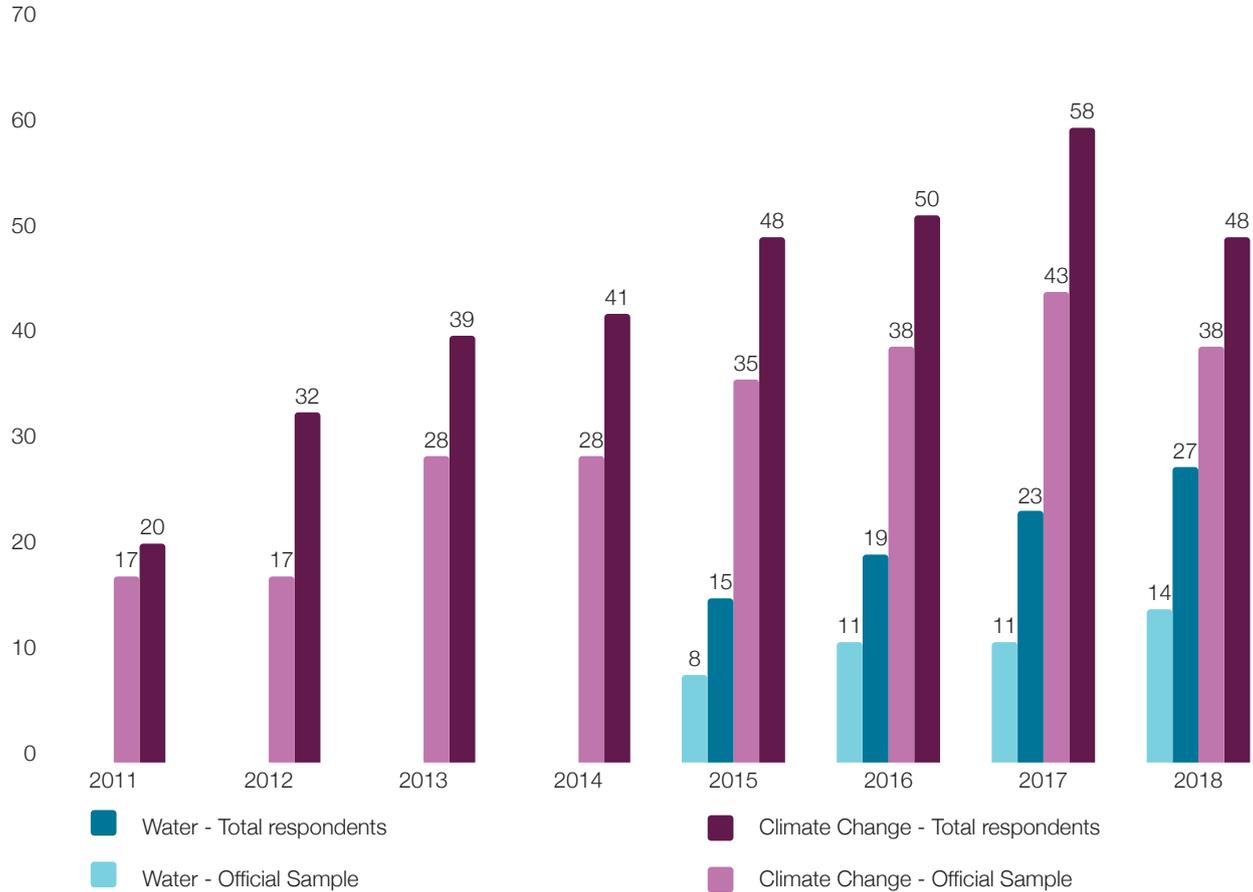
RESPONDING COMPANY LIST

WATER / TURKEY 2018

| Official Sample |
|--|
| AKSA AKRİLİK KİMYA SANAYİİ A.Ş. |
| ARÇELİK A.Ş. |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. |
| COCA-COLA İÇECEK A.Ş. |
| ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş. |
| ENKA İNŞAAT VE SANAYİ A.Ş. |
| FORD OTOMOTİV SANAYİ A.Ş. |
| KORDSA TEKNİK TEKSTİL A.Ş. |
| MİGROS TİCARET A.Ş. |
| POLİSAN HOLDİNG A.Ş. |
| TEKFEN HOLDİNG A.Ş. |
| TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. |
| VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş. |
| ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş. |

| Other Responding Companies |
|--|
| AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. |
| AKENERJİ ELEKTRİK ÜRETİM A.Ş. |
| ALBARAKA TÜRK KATILIM BANKASI A.Ş. |
| DURAN DOĞAN BASIM VE AMBALAJ A.Ş. |
| PINAR ENTEGRE ET VE UN SANAYİİ A.Ş. |
| PINAR SÜT MAMULLERİ SANAYİİ A.Ş. |
| ŞEKERBANK T.A.Ş. |
| T.GARANTİ BANKASI A.Ş. |
| TAV HAVA LİMANLARI HOLDİNG A.Ş. |
| TÜRKİYE HALK BANKASI A.Ş. |
| YAPI VE KREDİ BANKASI A.Ş. |
| YÜNSA YÜNLÜ SANAYİ VE TİCARET A.Ş. |
| ZORLU DOĞAL ELEKTRİK ÜRETİMİ A.Ş. |

Number of Responding Companies since 2011



SNAPSHOT

CLIMATE CHANGE / TURKEY 2018



SNAPSHOT

WATER / TURKEY 2018

| Response Summary & Current State | Business Impacts & Procedures | Governance & Strategy | Risks & Opportunities | Accounting | Targets & Strategy |
|---|--|--|--|--|--|
| <p>Total Number of Responding Companies</p> <p>27</p> | <p>Organization has experienced detrimental water-related impacts</p> <p>31%</p> | <p>Reported board level oversight of water-related issues within the organization</p> <p>96%</p> | <p>Identified water-related risks both in direct operations and the rest of the value chain</p> <p>46%</p> | <p>Total water withdrawal by source is higher than the previous reporting year</p> <p>50%</p> | <p>Company-wide targets and goals are in place</p> <p>35%</p> |
| <p>Number of public responses</p> <p>19</p> | <p>Identified flooding as the top impact driver of the water-related detrimental impacts</p> <p>15%</p> | <p>Reported engagement in activities that could influence public policy on water</p> <p>92%</p> | <p>Identified water-related opportunities and some/all are being realized</p> <p>92%</p> | <p>Total water discharge by destination is lower than the previous reporting year</p> <p>46%</p> | <p>Reduced environmental impacts reported as the most common primary motivation behind water targets</p> <p>42%</p> |
| <p>Engage with the value chain on water-related issues</p> <p>69%</p> | <p>Undertook a water-related risk assessment</p> <p>96%</p> | <p>The board chair has the responsibility for water-related issues</p> <p>15%</p> | <p>Identified risks in the direct operations with the potential to have impact on the business within a year</p> <p>27%</p> | <p>More than 50% of total water use is recycled and reused</p> <p>15%</p> | <p>More than 50% of targets are achieved</p> <p>42%</p> |
| <p>Water quality & quantity are vital for the success of the business</p> <p>65%</p> | <p>Both direct operations and supply chain have integrated in the procedures for identifying and assessing water-related risks</p> <p>31%</p> | <p>Water-related issues are integrated into the long-term (more than 10 years) strategic business plan</p> <p>38%</p> | <p>Identified flooding or increased water scarcity as the most primary risks in the direct operations</p> <p>27%</p> | <p>More than 50% of suppliers have requested to report on their water use, risks and/or management information</p> <p>15%</p> | <p>Water stewardship is the top motivation behind the water goals</p> <p>31%</p> |
| <p>Water aspects of all operations (%100 of sites/facilities/operations) are regularly measured and monitored</p> <p>88%</p> | <p>Employers are the most considered stakeholders in organization's water-related risk assessments</p> <p>92%</p> | <p>Water-related issues are integrated into financial planning of the organization</p> <p>73%</p> | <p>Identified cost savings as the most primary water-related opportunity</p> <p>58%</p> | <p>Water withdrawal data has been externally verified</p> <p>54%</p> | <p>Identified any linkages or trade-offs between water and other environmental issues</p> <p>88%</p> |

KEY FINDINGS

CLIMATE CHANGE

▼ Most of the (93%) responding companies in Turkey identified inherent climate-related risks with the potential to have a substantive financial or strategic impact on their business. The amount of the identified potential financial impact of risks is US\$29 billion in total.

▼ Analysing environmental disclosures by 44 companies, the report finds 82% now believe so-called 'transition' risks, such as new climate legislation, will meaningfully affect their businesses. A further 89% believe that the risk driver occurs mostly in direct operations and it occurs mostly in medium term (70%).

▼ To manage these risks, 84% of companies now offer monetary incentives to their C-suite or boards for the management of climate-related issues including the attainment of targets.

▼ Climate change is a mainstream boardroom topic for companies in Turkey now. Almost all responding companies (95%) stated the Board-level oversight of climate-related issues within the organization; more than half (52%) of organisations have CEO oversight.

▼ According to the company responses, 57% claim to be implementing current best practice by using a scenario-based approach to inform their corporate strategy around climate change, while an additional 30% anticipate that, by 2020, they will use different climate scenarios to inform their business strategies.

▼ Almost all responding companies in Turkey see business opportunities resulting from climate change. In fact, the proportion of companies that has identified positive opportunities resulting from climate change is larger than the share of companies that has identified risks (95% vs. 93%).

▼ Businesses in Turkey are also finding opportunities in other areas, with 20% of companies offering low-carbon products and services that can help their customers to reduce emissions. A further 24% report that their products and/or services enable third parties to avoid GHG emissions.

▼ 11 percent of responding companies have developed a low-carbon transition plan to support the long-term business strategy. A further 16% plan to complete it by 2020.

▼ There is an obvious progress on emission reporting in Turkey. 45 percent of responding companies reported reductions in GHG emissions compare to the previous year. In parallel, a growing number of companies recognize the importance of verifying the accuracy of their emissions data. 75 percent of responding companies indicated that their scope 1 and scope 2 emissions have been externally assured or assurance is underway jumped from 62% in 2017.

▼ More companies in Turkey are stepping up their response to climate change, setting more ambitious targets to drive longer-term progress towards low carbon future. 84% of respondents have some sort of target in place for reducing emissions (80% in 2017). A further 73% reported that the initiatives are related to energy efficiency processes up from 64% in 2017.

▼ There is a room for improvement of using climate-related mechanisms such as setting Science Based Targets and/or internal carbon price. Only 7% of respondents consider that their target is a science-based target, but these targets have not been approved as science-based by the SBTi. A further, 32% are anticipating setting one by 2020. Similarly, the rate of Turkish companies that use an internal carbon price is quite low: 18 percent (16% in 2017). A further 34% plan to implement a price on carbon in the next two years.

▼ Engagement on climate issues becomes more important for the companies in Turkey because of international developments around climate change. Growing number of companies engaging their supply chains to drive downstream emissions reductions, with 40% integrating climate issues into their supplier evaluation processes. Moreover, 86% of respondents reported engagement in activities that could either directly or indirectly influence public policy on climate-related issues up from 70% in 2017.

▼ BIST100 represent 83% of the total market cap of Borsa Istanbul. Companies that accept the invitation to disclose to CDP represent 52% of the official sample and 43% of the total market cap, which is close to the global figure of 50%.

▼ As environmental awards are announced, there is no Global CDP A list company in Turkey in 2018. However, three companies, Arçelik, Aselsan and Garanti Bank, achieved a score of A- across climate change program are recognized as pioneers of business in Turkey for environmental action.

KEY FINDINGS

WATER SECURITY

▼ Many companies are already rising to the water challenge. Today 27 of the Turkey's largest companies measure, manage and report their water risks and impacts through CDP – up from 15 just three years ago.

▼ 81 percent of responding companies in Turkey have company-wide water policy. A further 92% engage in activities that could either directly or indirectly influence public policy on water.

▼ Company boards have woken up to water security. Water security now has a firm seat at the table of almost all (96%) of the most significant corporate boards in Turkey up from 74% in 2017. In more than half of the responding companies (58%), CEO is the one with responsibility for water-related issues.

▼ Water risks are rapidly materializing for business in Turkey. 31 percent (13% in 2017) of companies in Turkey reported suffering from some sort of water-related issue over the reporting period-mostly related to flooding or droughts-with a total estimate water-related financial impact of US\$25.8 million.

▼ Dependence of company's operations on sufficient amounts of water, especially reliance on freshwater sources, is alarming. Companies disclosing from Turkey claim that having sufficient good quality freshwater for their own use is either important (62%) or vital (65%) for their business.

▼ A significant portion of responding companies (96%) reporting via CDP now measure and monitor more than 50% of all water aspects across all operations to have a good understanding of their water risks. In terms of water withdrawals, 38% of responding companies report a decrease, while 35% measured an increase compared to previous year. Half of the companies reported that total water discharge by destination is higher compare to the previous year.

▼ Water crosses the company boundary, at either the corporate level or facility level. Most of the water withdrawal is sourced from third party sources (73%) and most of the water is discharged to third party destinations (88%).

▼ The level of engagement of companies in Turkey with water management and responsiveness to water risks are promising. 69 percent of companies engage with the value chain on water-related issues. A further 38% also ask their suppliers to report on their water use, risks and/or management information.

▼ 96 percent of responding companies state that water risks are assessed jumped from 78% in 2017. However, water-exposed companies should conduct risk assessments that are company-wide and comprehensive, including their direct operations and their supply chains. 31% of disclosing companies meet this higher standard – up from 9% in 2017.

▼ Physical risks are the most reported types of risks in the direct operations (85%) and also in the value chain (38%). Increased operating costs are the most reported potential impact (54%) of identified risks in the direct operations; in the value chain the most reported one is drought (15%).

▼ Looking at the longer term 88% of respondents in Turkey are integrating water-related issues into organization's long-term strategic business plan. A further 73% use climate-related scenario analysis to inform its business strategy.

A NEW ERA FOR CDP

Integration of sector-specific questions¹

Environmental impacts remain a substantial risk to the way the world does business. As the markets and companies evolve in their awareness, CDP works to provide the framework to address this vast risk. Therefore, CDP moved to **sector-focused disclosure** in 2018. CDP's new questionnaires provide companies with a guide to transition to a sustainable business, helping companies find clear, measurable KPIs to work towards and report on which leads to better overall performance. Investors will be able to focus on the sector-specific performance metrics that have the most environmental impact and assess companies existing and future exposure to risk. This will allow investors to use this comparable information to better inform their engagement and investment decisions and ultimately protect their investments.

CDP introduced **19 sector-specific questionnaires** within Agriculture, Energy, Materials and Transport. More high-impact sectors will be included over the next two years. Three-quarters of questions in the climate, water and forests questionnaires remain either unchanged or with a modification to the previous year's question for consistency. Most companies received a general thematic questionnaire. However, companies in high-impact sectors asked to provide information specific to their sectors.

CDP sector requests are aligned with existing disclosure metrics in reporting recommendations and frameworks such as TCFD, the Dow Jones Sustainability Indexes, SASB and GRI. This alignment will help to optimize the reporting burden of companies.

Activity Classification System (ACS)²

CDP has developed a new Activity Classification System (ACS). This is a framework used to categorize companies by the most relevant sectors. It focuses on the diverse activities from which companies derive revenue and associates these with the impacts to their business from climate change, water security and deforestation.

Increased emphasis on forward-looking metrics - Scenario analysis³

Scenario analysis is a tool used in risk management to consider and understand how an organization might perform according to different future scenarios. In relation to climate issues, scenario analysis enables an organization to explore and develop an understanding of how climate change might impact their business over time. Scenario analysis not only identifies potential risks but can also offer insight into opportunities ranging from energy efficiency and changes in energy sources to new products and services, new markets or assets, and increased resilience.

Scenario analysis is being introduced by CDP in 2018 with companies asked to disclose whether they have completed a scenario analysis using climate-related scenarios. Additionally, CDP asks how climate, water and forest issues may be incorporated into business strategy and financial planning.

Common climate-related scenario analyses are based on transitional pathways, most frequently studying the potential future states surrounding the changes in policy and regulations to meet the commitments of the Paris Agreement, a 2°C or below world, or a low-carbon economy.

Inclusion of the TCFD recommendations⁴

By disclosing to CDP, companies will be responding to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) in a globally comparable and structured format. CDP is advancing the availability of financially relevant information by aligning with the TCFD. Companies can respond to the TCFD recommendations through CDP's established global disclosure platform that can structure, analyze, compare and trace information in a transparent way which reduces reporting effort.

As a result, new sector-focused questionnaires and sector classification system along with the questionnaire evolution to more forward-looking measures and the integration of the TCFD guidelines will be crucial to tracking the progress of companies in meeting the aims of the Paris Agreement and the **Sustainable Development Goals (SDGs)**.

¹ How CDP's move to sector-based questions benefits companies, CDP Website, 2018

² CDP's Activity Classification System List, 2018

³ CDP Technical Note on Scenario Analysis, 2018

The Task Force on Climate-related Financial Disclosures (TCFD)

In 2015, at the request of the G20 Finance Ministers and Central Bank Governors, the Financial Stability Board (FSB) established the industry-led Task Force on Climate-related Financial Disclosures (TCFD) to develop voluntary and consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders. This was in response to increasing demands from investors, lenders, insurers, regulators, policy makers, and other stakeholders in the financial markets for decision-useful, climate-related information.

TCFD's objective was to formulate a set of recommendations to help organizations to understand and disclose their exposure climate-related issues. The TCFD was tasked with developing a set of voluntary, financially relevant, climate disclosure recommendations that could promote informed investment, credit, and insurance underwriting decisions that could in turn enable stakeholders to better understand assets exposed to climate-related risks.

Its aim is to enable stakeholders to allocate capital efficiently through the transition to a low-carbon economy without a potential dislocation of capital in the financial markets. TCFD helps to raise climate issues from the CSR department to the Board and encourages more engagement between investors and companies.

The TCFD's final report presents a principle-based set of recommendations for voluntary disclosure that aims to balance the needs of data users with the challenges faced by preparers. The report provides the overarching core recommendations with supporting information on climate-related risks, opportunities, financial impacts, and scenario analysis.

Core elements of recommended climate-related financial disclosures



Governance

The organization's governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management

The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

COMPANY RESPONSE SUMMARY

CLIMATE CHANGE / TURKEY 2018

CARBON PRICING

Carbon pricing has emerged as a key policy mechanism to drive greenhouse gas emissions reductions and mitigate the dangerous impacts of climate change. As the number of jurisdictions with carbon pricing policies has doubled over the last decade, CDP data users are interested in understanding how companies are affected by these schemes. This module examines details on the operations or activities regulated by carbon pricing systems, carbon credits and internal prices on carbon.

- 18% use an internal price on carbon

VERIFICATION

Verification and assurance are good practices in environmental reporting as they ensure the quality of data and processes disclosed. This module requests details on the verification status that applies to organizations' reported Scope 1, 2 and 3 emissions, as well as on the verification of other climate-related information reported in the CDP disclosure.

- Third-party verification or assurance process in place;
 - Scope 3 41%
 - Scope 1&2 75%

EMISSIONS

A meaningful and consistent comparison of emissions over time is an essential step in environmental reporting. This module allows companies to provide the base year and base year emissions and provide details of the standard, protocol, or methodology used to collect activity data and calculate Scope 1 and Scope 2 emissions. Reporting emissions is best practice and a prerequisite to understanding and reducing negative environmental impacts.

- 91% reported Scope 1 and 2 emissions
- 45% reported a decrease in Scope 1 and 2 emissions
- 45% reported an increase in Scope 1 and 2 emissions

TARGETS

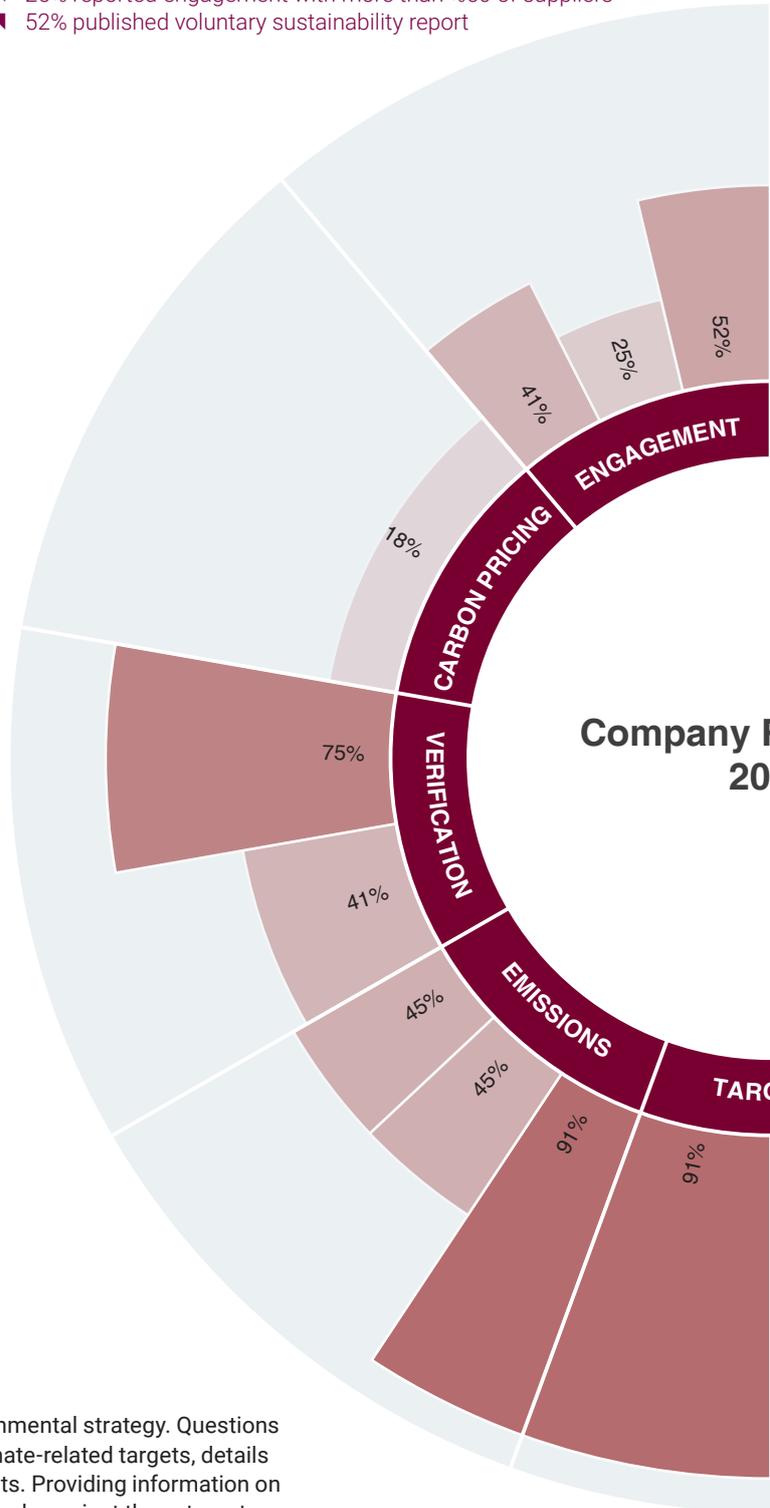
Target setting provides direction and structure to environmental strategy. Questions in this module focus on emission targets, additional climate-related targets, details on emission reduction initiatives and low-carbon products. Providing information on quantitative target and qualitative goals, and progress made against these targets, can demonstrate organization's commitment to improving climate-related issues management at a corporate level.

- 84% have an emission targets that was active in the reporting year
- 91% have emission reduction initiatives that were active within the reporting year

ENGAGEMENT

In order to truly reduce global emissions, companies must engage with their value chain on climate-related issues. Questions in this module examine how organizations are working with their suppliers, customers and other partners. This module provides data users with insight into the different types of activities in which organizations engage to influence public policy on climate-related issues.

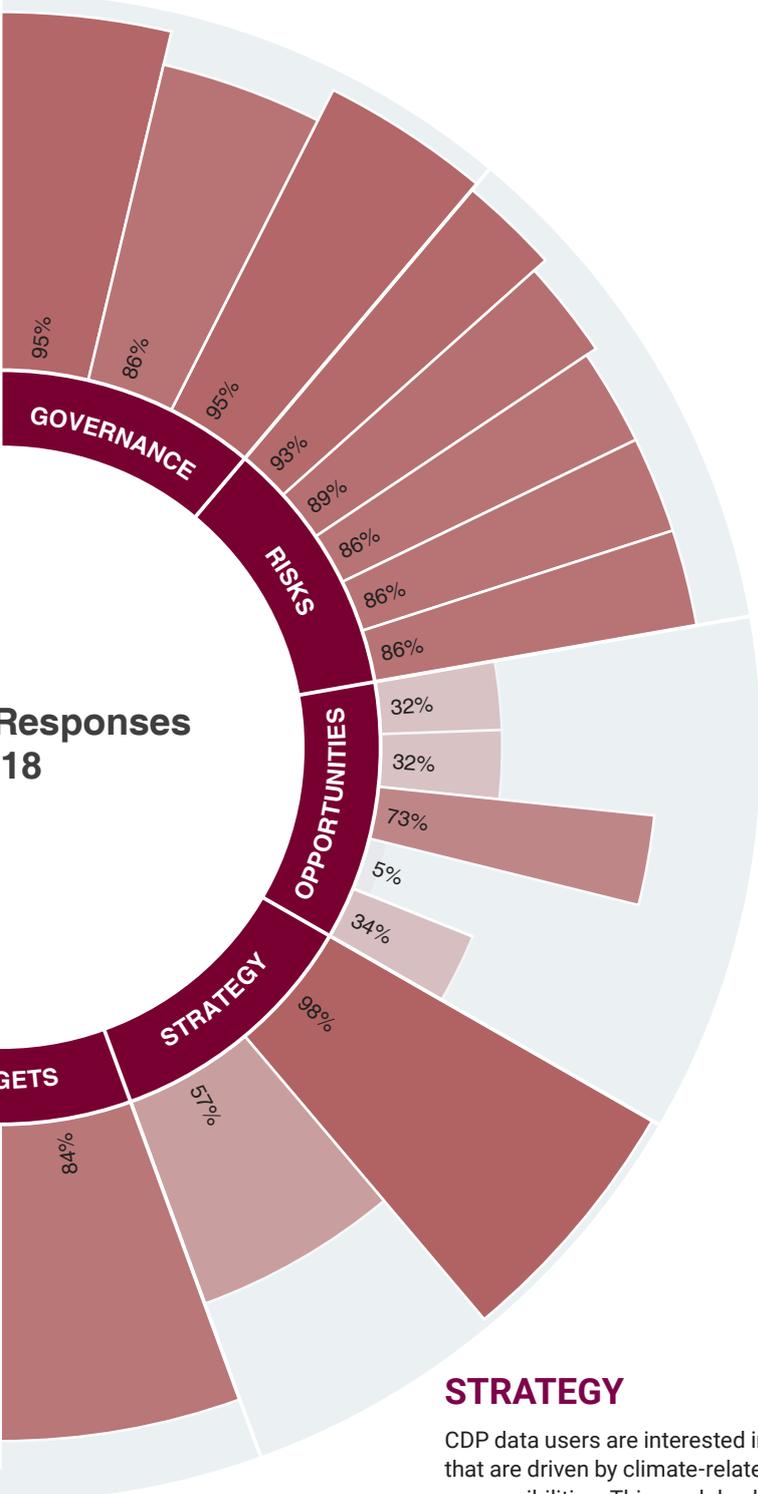
- 41% reported engagement with the value chain on climate-related issues
- 25% reported engagement with more than %50 of suppliers
- 52% published voluntary sustainability report



GOVERNANCE

This module is intended to capture the governance structure of the company with regard to climate change and provides data users with an understanding of the organization's approach to climate-related issues at the board level and below board-level. Responding companies in Turkey have strong governance structures and strategies for climate change. This is reflected in percentages associated with questions on senior-level responsibility, providing incentives for the management of climate-related issues, and having a climate risk management procedure in place.

- 95% have board-level oversight of climate-related issues within the organization
- 86% have climate risk management procedures in place
- 95% provide incentives for the management of climate-related issues



Responses
18

RISKS

Evaluating exposure to climate-related risks and opportunities over a range of time horizons allows for a strategy for the transition to a low-carbon economy recognized in the Paris Agreement and UN SDGs. This module focuses on processes for identifying, assessing, and managing climate-related issues as well as on the climate-related risks identified by the organization. Responding Turkish companies appear particularly mindful of the reputational and regulation risks posed by climate change.

- 93% identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on the business.

Mostly reported risk types considered in the organization's climate-related risk assessments;

| | |
|---------------------|-----|
| Reputation | 93% |
| Current Regulation | 89% |
| Emerging Regulation | 86% |
| Acute Physical | 86% |
| Market | 86% |

OPPORTUNITIES

Besides many of the challenges that companies face, climate change also presents opportunities. Among the companies that responded to opportunities module in 2018, products & services and resource efficiency appear as the mostly reported opportunity types considered in the organization's climate-related risk assessments.

- 95% identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on the business.

Mostly reported opportunity types considered in the organization's climate-related risk assessments;

| | |
|-----------------------|-----|
| Products and Services | 73% |
| Resource Efficiency | 34% |
| Energy source | 32% |
| Markets | 32% |
| Resilience | 5% |

STRATEGY

CDP data users are interested in organizations' forward-looking strategies and financial decisions that are driven by climate-related future market opportunities, public policy objectives, and corporate responsibilities. This module allows organizations to disclose whether they have acted upon integrating climate-related issues into their business strategy. The module also includes questions on scenario analysis and transition planning which are important evolutions in strategic environmental planning.

- 98% integrated climate-related issues into business strategy
- 57% use climate-related scenario analysis to inform organization's business strategy

COMPANY RESPONSES OVERVIEW

CLIMATE CHANGE / TURKEY 2018

48
disclosing
companies in
total

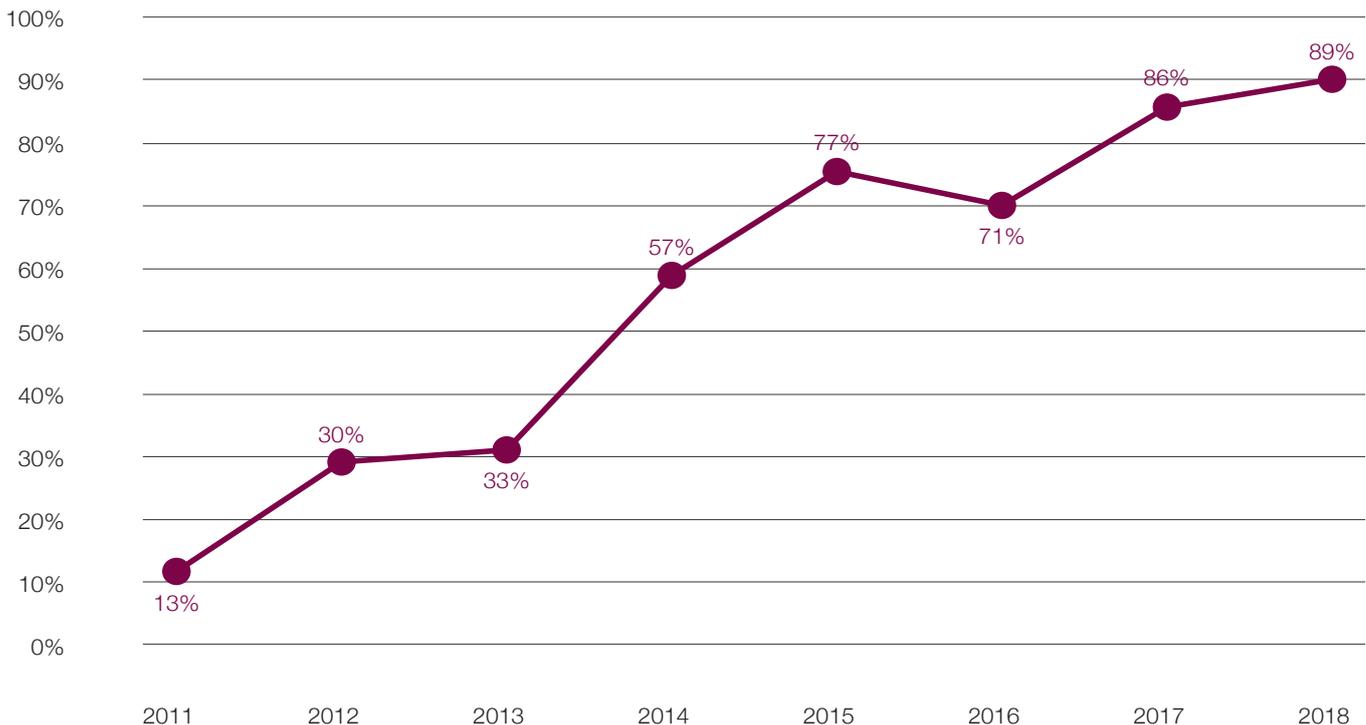
The 2015 Paris Agreement was a tipping point in the global approach to climate change. By agreeing to limit global temperature rises to well below 2°C, governments have committed to transforming to a low-carbon economy. In 2018, the rulebook of Paris Agreement; 'Katowice Climate Package' is finalized at UN Climate Change Conference (COP24). It was also a year of scientific researches and reports with the release of the Intergovernmental Panel on Climate Change (IPCC) Special report on the Impacts of Global Warming of 1,5°C and UN Environment's (UNEP) Emission Gap Report as a final warning before it becomes impossible to keep warming at 1,5°C.

Businesses seem to be much further ahead of the government in responding to climate change risks, as those risks have become material. CDP believes that improving corporate awareness through measurement and disclosure is essential to the effective management of carbon and climate change risk. CDP requests information on climate risks and low-carbon opportunities from the world's largest companies on behalf of over **650 institutional investor signatories with a combined US\$87 trillion in assets.**

CDP requested the largest 100 companies from Borsa Istanbul 100 Index (BIST-100) and companies with high environmental impact in Turkey to disclose their environmental information. **In total, 48 companies responded to CDP Climate Change Program in Turkey.** Out of 48 companies, 38 are from official sample (BIST-100) and 10 are outside of the sample including companies reporting voluntarily as a self-selected companies (SSCs). The following analysis in this report includes 44 companies in total excluding the companies responded as See Another (SA) which means company is either a subsidiary or the parent company is already responding to CDP.

The figure below represents **the disclosure levels of companies.** It is a calculation of the extent to which the full questionnaire was answered. There has been a steady increase in the **completeness of submissions** (responding more than 75% of questionnaire) from disclosing companies. 89 percent of submissions were in the most 'complete' quartile this year suggesting that companies are increasingly recognizing the value of comprehensive disclosure through CDP.

The trend in completeness of submission (75-100%)



95%
have
board-level
oversight
of climate-
related issues

▼ **Governance & Business Strategy**

As suggested by the TCFD, environmental concerns have become firmly established as a board-level issue. Environmental action is a growing boardroom priority as companies face increasing financial and reputational risk from climate change, deforestation and water security. Board-level oversight of climate-related issues is considered best practice and provides an indication of the importance of climate-related issues to the organization. On climate matters almost all respondents (95%) stated the **Board-level oversight of climate-related issues** within the organization; more than half (52%) of organisations have CEO oversight.

95 percent (82% in 2017) of responding companies provide **incentives for the management of climate-related issues**, including the attainment of targets and 84% of them are monetary incentives.

CDP data users are interested in organizations' **forward-looking strategies** and financial decisions that are driven by climate-related future market opportunities, public policy objectives, and corporate responsibilities. Given the importance of forward-looking assessments of climate-related risks and opportunities, scenario analysis is an important and useful tool for an organization to use, both for understanding strategic implications of climate-related risks and opportunities, and for informing stakeholders of how the organization is positioning itself in recognition of these issues.

98 percent (92% in 2017) of responding companies in Turkey report that **climate change is integrated into their business strategy**. Besides, 57% at present claim to be implementing current best practice by using a **scenario-based approach** to inform their corporate strategy around climate change, while an additional 30% anticipate that they will introduce this over the next two years.

At **KORDSA**, the highest organizational governance body is the Board of Directors. Under the Board of Directors, Executive Lead Team (ELT) has the responsibility of assessing and monitoring of climate-related issues. ELT consists of the Site Present Directors (COOs of every country) from every site. ELT meets with the COO and the members of ELT every 3 months. Under ELT, there is Sustainability Task Force to conduct climate-related topics.

Board of directors at **EKOTEN TEKSTİL** assigns targets to the corporate executive team to reduce their energy consumption per unit production. The team is also given GHG emission reduction targets in line with these energy targets. The energy targets are monitored monthly via balance score cards. When the performance of the corporate executive team is reviewed, the achievements of these targets play an important role in their raise amounts. If the team achieves those targets, they are given monetary rewards as well.

84%
have
monetary
incentives

ALBARAKA TÜRK's scenario analysis is based on International Energy Agency (IEA) Sustainable Development Scenario. There is a strong link between the banking strategy and investment in energy business. The company strongly opts for the commitments to meet criteria set by the Paris Agreement. There are three aspects of scenario analysis by Albaraka Turk; 1. Clean Energy for All: The Bank aims at provision of sustainable and clean energy for everyone. Hence, the process for divestment from fossil fuels by 20 percent annually between 2020 and 2025 is an essential part of the scenario. 2. Innovative Investment: It is clear that new technologies will lead the way to a low carbon future. The Bank aims at financing the implementation of innovative technologies by new loan products and partnerships. 3. Assisting the Paris Agreement: Turkey has committed a reduction of GHGs by 2030 by 21 percent below BaU (Business As Usual) by presenting a roadmap of new policy implementation in the area of transportation, energy and urbanization. The Bank's strategy is taking an active role in the accomplishment of this goal. The Bank developed three scenarios and estimated the resources that can be diverted to these three aspects under three scenarios: Ambitious, Semi-ambitious and Modest.

Scenario Analysis

A scenario describes a potential path of development that will lead to a particular outcome or goal. Scenario analysis is the process of highlighting central elements of a possible future and drawing attention to key factors or critical uncertainties. It is a tool to enhance critical strategic thinking by challenging 'business-as-usual' assumptions, and to explore alternatives based on their relative impact and likelihood of occurrence. Scenarios are not forecasts or predictions, but tools to describe potential pathways that lead to a particular outcome or goal.

- **Qualitative scenarios:** A high level, narrative approach to scenario analysis, suitable for organizations familiarizing themselves with the process. Qualitative scenario analysis explores relationships and trends for which little or no numerical data is available.

- **Quantitative scenarios:** A more detailed method for conducting scenario analysis, with greater rigor and sophistication in the use of data sets and quantitative models which may warrant further analysis. Quantitative scenario analysis can be used to assess **measurable trends and relationships using models and other analytical techniques.**

- **2°C or lower scenario:** A 2°C scenario provides a reference point that is generally aligned with the objectives of the Paris Agreement. There are publicly available scenarios (such as IEA 2DS, IEA 450, Deep Decarbonization Pathways Project, and International Renewable Energy Agency) organizations can use, as a direct tool, or a reference point for tailored scenarios.

- **Publicly available 2°C scenarios:** Taken from TCFD recommendations, "Publicly available 2°C scenarios" refer to 2°C scenarios which are:

- wherever possible, supported by publicly available data sets;
- updated on a regular basis; and
- linked to functional tools (e.g., visualizers, calculators, and mapping tools) that can be applied by organizations.

Source: CDP Technical note on scenario analysis, 2018

98%
integrated
climate
change in
the business
strategy

82%
have factored
risks and
opportunities
into financial
planning
process

▼ Risks & Opportunities

The TCFD recommendations set out guidance for how companies should communicate their material climate change risks and opportunities in their mainstream financial filings. Therefore, the questionnaires in 2018 have been updated to ask for more detail beyond looking at current performance to grow pressure on companies to better evaluate the financial opportunities and risks they face in the transition to a sustainable economy.

86 percent of responding companies reported that **climate risks and opportunities have impacted their business.** Besides, 82% of companies have **factored risks and opportunities** into company's financial planning process.

Most of the (93%) responding companies identified inherent climate-related risks with the potential to have a substantive financial or strategic impact on the business. The **potential financial impact of risks** that identified by companies in Turkey is US\$29 billion in total. Total **number of risks identified** as relevant is 357.

The most commonly reported **risk types** considered in the organization's climate-related risk assessments are related to reputation (93%) and current regulation (89%).

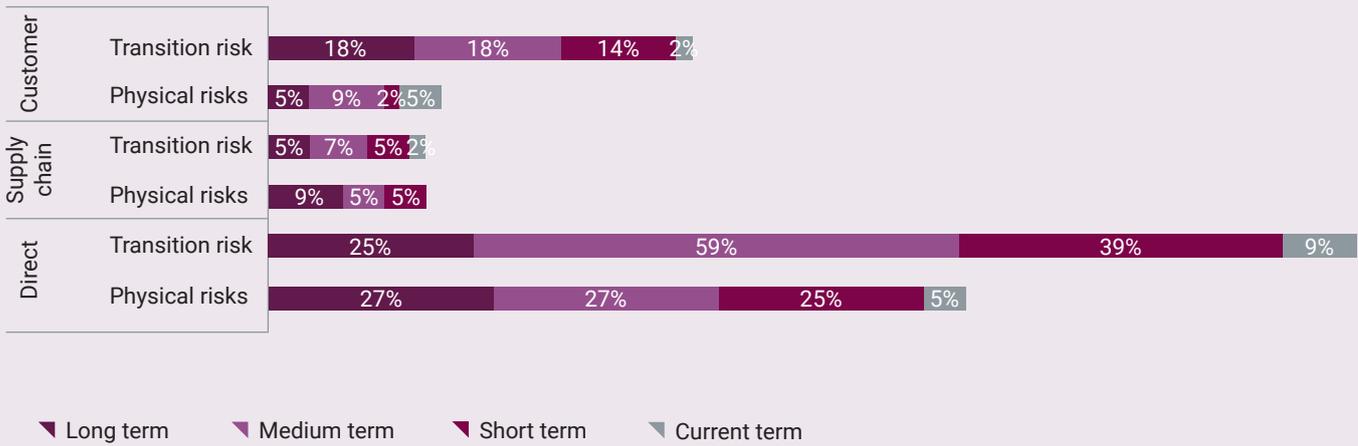
Changes in precipitation and policy & legal aspects are the most commonly reported primary climate **risk drivers.** It is attributable to the recent temperature changes and extreme weather conditions which affect almost all companies in Turkey. Increasingly more companies understand that they need to safeguard their reputations

through effective climate change management and communication of their climate change strategy.

Climate risks can be further split out to look at two types of impact: the **physical risks** from a changing climate and extreme weather event, which can disrupt operations and supply chains; and the **transition risks** from society's response to climate change, such as policy and regulatory changes, the development of new technologies and business models, or changing consumer demand. The percentage of transition risks in the direct operations (82%) is higher than the physical risks (68%) for responding companies in Turkey. In 2018, CDP also asked companies to define the time horizons over which they see risks and opportunities. In the value chain, the risk driver occurs mostly in direct operations (89%) and it occurs mostly either in medium-term (70%) or in short term (48%) future.

In order to manage the risks and opportunities that affect **FORD OTOSAN's** intentional and strategic direction, the risks and opportunities in each process are addressed in the direction of the Risk Management Procedure; these risks are then reduced, methods are applied, the conditions are changed, or at least once a year terms of consistency is reviewed. Processes are monitored and reviewed for the purpose of achieving desired results and / or improving their processes. If changes are needed at these stages, necessary arrangements are made.

Percentage of companies seeing at least one risk of the respective type in the respective horizon



Responding companies recognize opportunities as well as risks posed by climate change. Most companies (95%) are positive about the **potential business opportunities** from providing the solutions to climate change. In fact, the proportion of companies that has identified positive opportunities resulting from climate change is larger than the share of companies that has identified risks (95% vs. 93%). **Total number of opportunities identified** as relevant is 153.

357
total number of risks identified

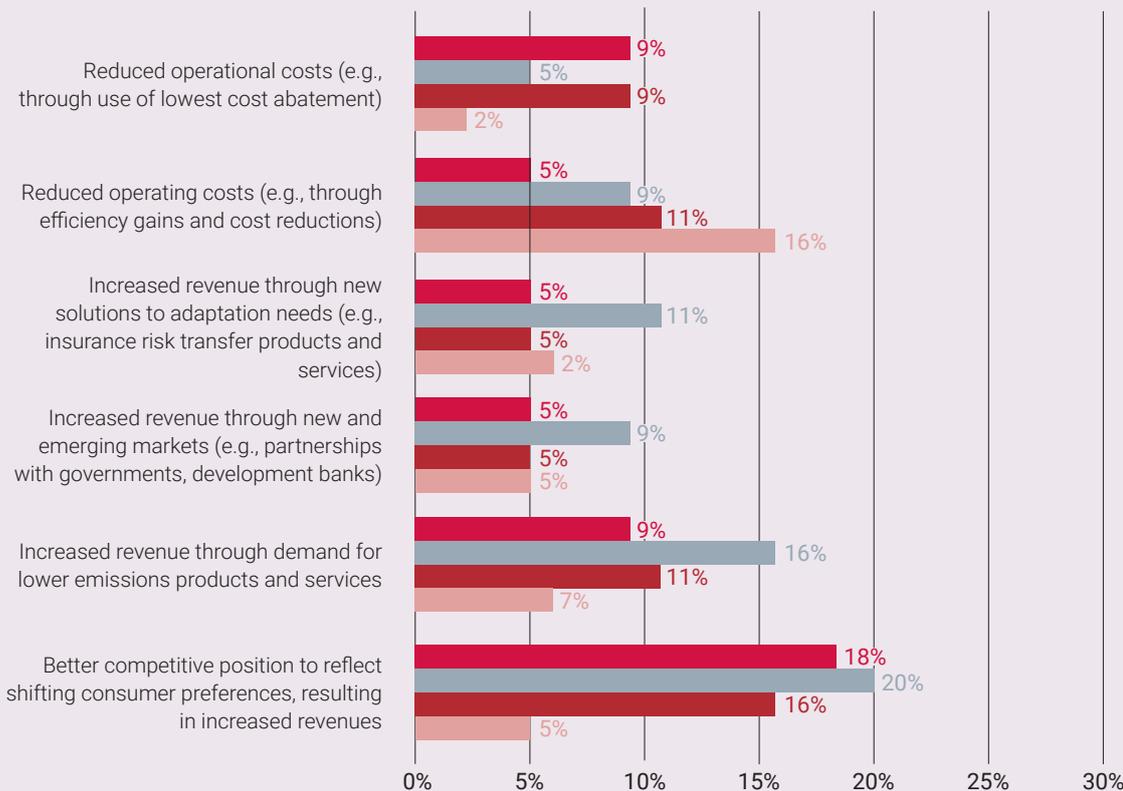
The top **opportunity types** considered in the organization's climate-related risk assessments are related to resource efficiency (34%) and products & services (73%).

153
total number of opportunities identified

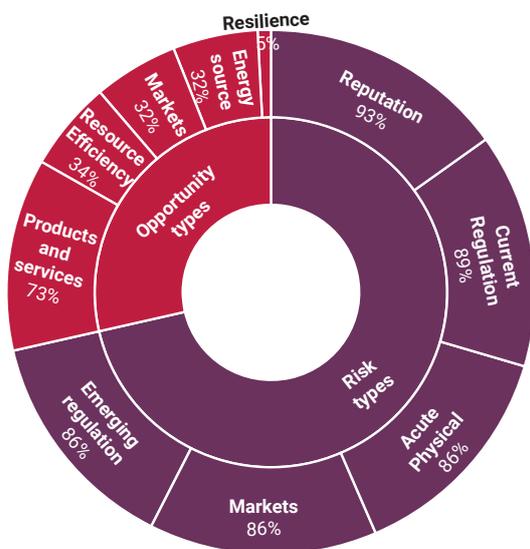
Shift in consumer preferences (43%) and development and/ or expansion of low emission goods & services (34%) are most commonly reported primary climate-related **opportunity drivers**. In the value chain the opportunity occurs mostly in direct operations (73%) and it occurs either in short-term (32%) or in medium-term (36%) future.

Top identified opportunities with time horizon

Long term Medium term Short term Current



Most commonly reported risk & opportunity types by responding companies



The number of consumers who are sensitive to the challenges of sustainability, environmental management and fight against climate change is increasing steadily. **MIGROS** organized stakeholder evaluation surveys in 2017 and measured the sensitivities and expectations of their customers on sustainability issues. More than half of the participants indicated that the fight with climate change is the issue that company should focus on the most. Participants expressed their care about Migros' investments in environmental protection (68%), their work on energy efficiency (72%) and waste management (79%). Migros thinks that they will be able to increase customer loyalty and competitive advantage with their studies and reports on Climate Change.

84%
have targets
in place

91%
have active
emission
reduction
initiatives

32%
anticipate
setting SBT
in the next 2
years

▼ **Targets and Performance**

Questions in this module focus on emissions targets, additional climate-related targets, details on emissions reduction initiatives and low-carbon products.

Target setting provides direction and structure to environmental strategy. Providing information on quantitative targets and qualitative goals, and progress made against these targets, can demonstrate organization's commitment to improving climate-related issues management at a corporate level. This information is relevant to investors' understanding of how a company is addressing and monitoring progress regarding the risks and opportunities disclosed.

More companies are setting emissions reduction targets. Among Turkey sample, 84% of respondents have some sort of target in place for reducing emissions (80% in 2017). Most commonly reported emissions reduction target type is intensity target (45%). Another 30% have both intensity and absolute targets.

Percentage of emissions targets active within the reporting year

| | |
|------------------------------------|-----|
| Absolute target | 9% |
| Intensity target | 45% |
| Both absolute and intensity target | 30% |
| No target | 16% |

CDP is working with the **Science Based Targets initiative (SBTi)** to guide companies on how best to set these GHG reduction targets. SBTs are crucial because they provide frameworks within which companies can plan for the reductions needed to meet the goals of the Paris Agreement. Using the most recent climate science, the science-based target setting methods determine a company's share of the remaining global carbon budget based on company attributes such as their sector. Unfortunately, **number of companies adopting Science Based Targets is very limited in Turkey.** Only 7% of respondents consider that their target is a science-based target, but these targets have not been approved as science-based by the SBTi. However, 32% of responding companies are anticipating setting one in the next two years.

Questions on **emission reduction initiatives** allow CDP data users to understand the organization's commitment to reducing emissions beyond business-as-usual scenario. 91 percent of companies in Turkey report active **emissions reduction initiatives** in the reporting year (82% in 2017).

73 percent of companies reported that the initiatives are related to **energy efficiency** processes (64% in 2017). By improving their energy efficiency, companies reduce their costs.

Questions on **low-carbon products** provide valuable information to investors who are seeking to increase their investment in companies providing low-carbon and climate-resilient goods and services. 24 percent of companies report that their products and/or services enable third parties to **avoid GHG emissions**. And one-fifth (20%) of companies are also working to reduce downstream emissions through the development of **low carbon products and services** that can help their customers to reduce emissions.

To deliver against their targets, companies in Turkey are increasingly turning to clean energy, cutting emissions while simultaneously increasing their energy productivity and reducing their energy use. Targets for replacing existing energy sources with renewable energy should form a large part of any transition strategy, but now, few companies in Turkey have set **renewable energy consumption and/or production targets**. Ten percent (16% in 2017) of respondents have set a **renewable energy consumption target**, while 7% (10% in 2017) have set a **renewable energy production target**.

11 percent of responding companies have developed a **low-carbon transition plan** to support the long-term business strategy. A further 16% plan to complete it within the next two years.

Even though it is not yet ratified by the parliament, Turkey has signed the Paris Climate Change Agreement on April 22, 2016. Parallel to the content of the Paris Agreement, emission trading systems and carbon tax issues have been widely in discussion in the last years by the Ministry of Environment and Urbanization and other relevant authorities in Turkey. Thus, next step is expected to be a regulation concerning the cap and trade system and/or taxation for carbon. Companies in energy-intense sectors will have to invest in emission reduction or energy-efficiency practices to comply with the regulations. Also, a potential cap and trade market may increase the investment appetite of renewable energy investors. Both cases are expected to increase the demand for products of **TÜRKİYE SINAİ KALKINMA BANKASI** for financing of these potential investments. This situation is considered as asset level opportunity. The share of sustainability themed loans is 68% of the portfolio as of 2017 year-end. As of 2017, TSKB allocated \$750M to 131 Energy efficiency & Renewable energy projects. For renewable energy finance, TSKB financed 245 projects varying from hydro to solar, wind, biomass and geothermal, with a 5693 MW total installed capacity representing 15% of Turkey's total installed capacity. The total investment of projects funded between 2003 - 2017 was \$9.6 billion of which \$4.1 billion was committed by TSKB. Customers of TSKB are faced with climate-related risks & opportunities driven by cap and trade schemes, international agreements, renewable energy regulation, change in temperature extremes and change in precipitation extremes and droughts. TSKB supports its customers by offering sustainable products and services that provide low carbon and high efficient solutions. Renewable energy, energy efficiency and resource efficiency finance thematic loans are constituted as sustainability products.

TEKFEN Real Estate Hep İstanbul project is being developed as a LEED-certified Housing project. It is projected to result in 20% savings in electricity by designing lighting that maximizes energy performance, by selecting proper insulating glass windows, green roofing, and bicycle parking areas. All these savings mean that residents will be able to avoid unnecessary emissions. In addition, their construction process is also sustainable and low carbon. All construction waste is recycled and defining structures are sourced locally with specific recycled input material ratios. These allow Tekfen to save 547,16mWh of electricity annually.

ASELSAN develops an energy management system which improves efficiency for rail vehicles and in turn reduces costs. In this energy management system, super capacitors and new generation batteries are used together, the regenerative energy spent by rail vehicles in the form of heat energy during braking can be efficiently stored and used when desired. With its modular structure, which can be used both in the vehicle and in the station, the Energy Management System (EMS) allows rail vehicles, particularly trams, to be operated without a catenary system, allowing energy savings of up to 30% on public railway lines.

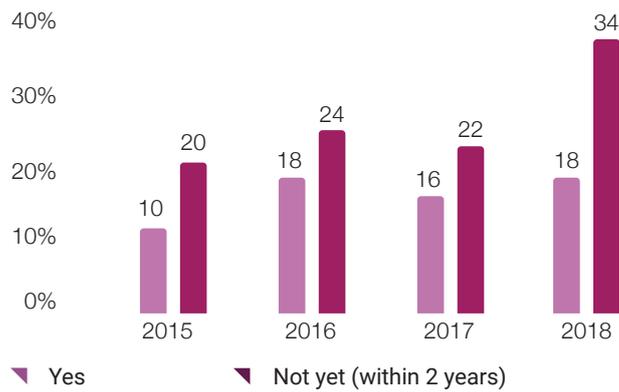
Carbon Pricing

Carbon pricing has emerged as a key policy mechanism to drive greenhouse gas emissions reductions and mitigate the dangerous impacts of climate change. Over the past few years, CDP has been tracking a steady increase globally in the number of companies embedding an internal carbon price into their business strategies. This growth is largely driven by the parallel development of regulations that directly or indirectly price carbon and the increasing pressure from shareholders and customers for companies to adequately manage their climate-related risks. However, the rate of Turkish companies that use an **internal carbon price** is quite low: 18 percent (16% in 2017). A further 34% plan to implement a price on carbon in the next two years.

18% use an internal carbon price

16 percent (14% in 2017) of companies originated or purchased any project-based carbon credits within the reporting period. Only two companies from Turkey are regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax): Pegasus and Şişe Cam.

Percentage of companies that use an internal price on carbon



The three main reasons for setting an internal carbon price

- **Managing risks:** Companies internalize the existing, expected or potential price of carbon – from an ETS, carbon tax, or implicit carbon pricing policy – to assess its risk exposure to regulations that affect the cost of emitting CO₂e.
- **Identifying opportunities:** Companies use an internal carbon price as a tool to reveal potential opportunities that may emerge in the transition to the low-carbon economy. As policy and legal, market, technological and reputational factors shift, they also present opportunities for companies to seize.
- **Transitioning to low-carbon activities:** A smaller number of organizations deliberately use an internal carbon price to drive emissions reductions and incentivize low-carbon activities -such as energy efficiency investments, clean energy, development of green products/services- in order to facilitate a company-wide low-carbon transition.

Source: CDP Report "Putting a price on carbon", 2017

Emissions reporting

Reporting emissions is best practice and a pre-requisite to understanding and reducing negative environmental impacts. Based on the disclosures of the responding companies **Scope 1 & Scope 2 emissions** are concentrated heavily in two sectors: materials and industrials. In total 91% of companies from all sectors reported their Scope 1 & Scope 2 emissions which was 90% in 2017. 82 percent of responding companies also reported their **Scope 3** emissions up from 72% in 2017.

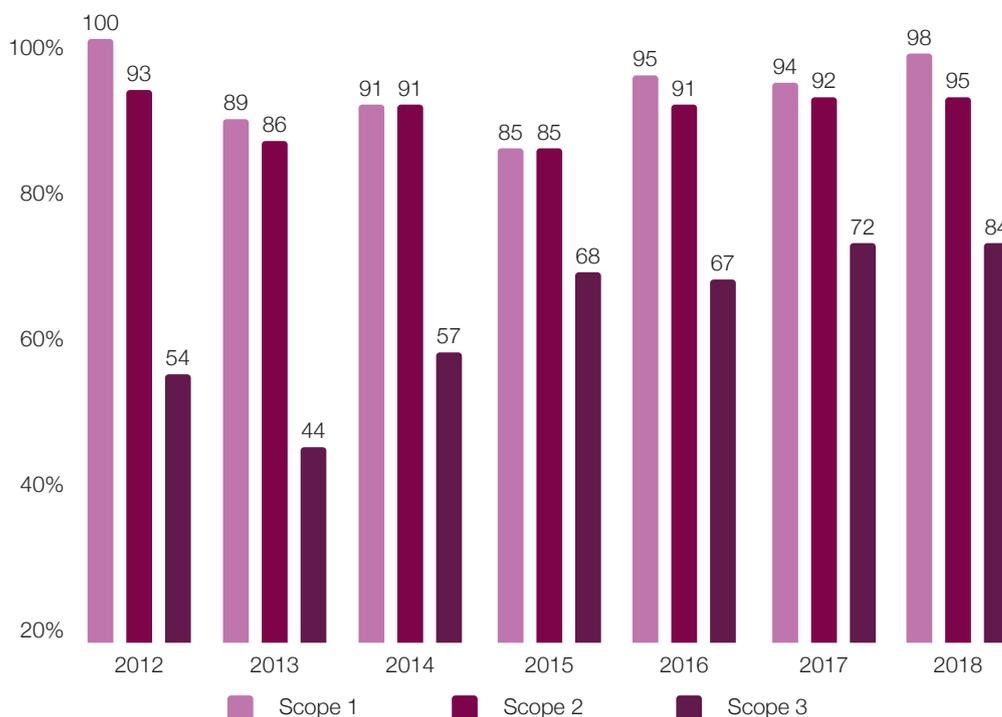
45 percent of companies did report an absolute increase in emissions over the past year. This was mostly as a result of increases in overall output.

Getting a third party verification and assurance is a good practice in environmental reporting as it ensures the quality of data and processes disclosed. **The rate of third party verification** must increase in order to have reliable emissions data. A growing number of companies in Turkey recognize the importance of **verifying the accuracy of their emissions data**. 75 percent of responding companies in Turkey indicated that their scope 1 and scope 2 emissions have been externally assured or assurance is underway jumped from 62% in 2017.

Since Scope 3 emissions are often more difficult to quantify when compared to scope 1 and scope 2 emissions, the level of the third-party verification is comparatively lower in this area: 41 percent (26% in 2017).

Energy related activities represent the most significant GHG emission sources. Accurate emissions accounting depends on a comprehensive account of energy. Almost all companies (98%) in Turkey provide **energy consumption totals** (excluding feedstocks) in MWh. Further 93% provides **fuel consumption totals** in MWh by fuel type consumed by the company.

Percentages of Scope 1, Scope 2, and Scope 3 Data Disclosure



91% reported scope 1 & 2 emissions

98% provides energy consumption totals

75%
scope 1 & 2
emissions have been
externally assured
or assurance is
underway

Engagement

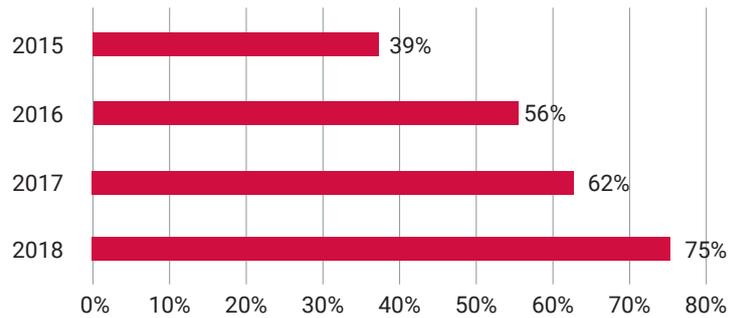
In order to truly reduce global emissions, companies must **engage with their value chain** on climate-related issues. This module provides data users with insight into the different types of activities in which organizations engage to influence public policy on climate-related issues.

Companies are engaging with key stakeholders such as policymakers, suppliers and customers. There is a growing number engaging their supply chains to drive downstream emissions reductions, with 40% integrating climate issues into their supplier evaluation processes. One fourth (25%) of companies engage with more than 50% of suppliers by number. Moreover, 86% (70% in 2017) of respondents reported engagement in activities that could either directly or indirectly influence public policy on climate-related issues.

The percentage of companies sitting on the board of any trade associations or provide funding beyond membership is 64%. 86 percent of companies **published information** about organization's response to climate change and GHG emissions performance for this reporting year in places other than CDP response. Further 52% published voluntary **sustainability report**.

52%
published voluntary
sustainability report

Percentage of companies reporting third party emissions verification



25%
engage with more
than 50 percent of
suppliers to drive
emission reductions

AKENERJI aims to raise awareness and provide information to local communities about their operations in locations where their power plants operate. Through their video training on electricity generation, environmental and OHS regulations, they inform contractors, visitors or interns who come to visit the power plants. They have reached 6159 students and 350 teachers with their HEPP Informative Presentations that are tailor-made to inform the local communities on how clean energy is generated at these power plants.

COMPANY RESPONSE SUMMARY

WATER / TURKEY 2018

LINKAGES & TRADE-OFFS

This module asks about linkages and trade-offs that may have been identified and/or considered when taking actions to manage risks or pursue opportunities related to water and other environmental issues. Understanding the linkages and trade-offs between water and other environmental issues will help companies seize opportunities for a more holistic management.

- 31% decreased energy use is the most common reported type of linkage
- 23% increased energy use is the most common reported type of trade-off

GOVERNANCE & BUSINESS STRATEGY

This module captures the governance structure and mechanisms of the organization with regards to water security. It provides data users with an understanding of the organization's approach to water-related issues at the board level and below board-level. The purpose of this module is to collect information on how a company is adapting its long-term business model to secure a sustainable future, in terms of both its own resilience and securing water for all. This module also collects information on organization's water-related quantitative targets and qualitative goals to demonstrate the commitment to progressing water stewardship and improving water management.

- 81% of the respondents have a company-wide water policy
- 69% of the respondents identified any water-related outcomes from the organization's climate-related scenario analysis
- 12% of the respondents use an internal price on water

VERIFICATION

CDP data users often ask about the credibility/quality of data disclosed. The information requested in this question could help strengthen confidence in organization's response to the water security questionnaire. CDP supports the development and use of verification methodologies as it promotes good practice in environmental disclosure.

- 35% of respondents verified water consumption
- 42% of respondents verified water discharge
- 19% of respondents verified water recycled/reused
- 54% of respondents verified water withdrawals

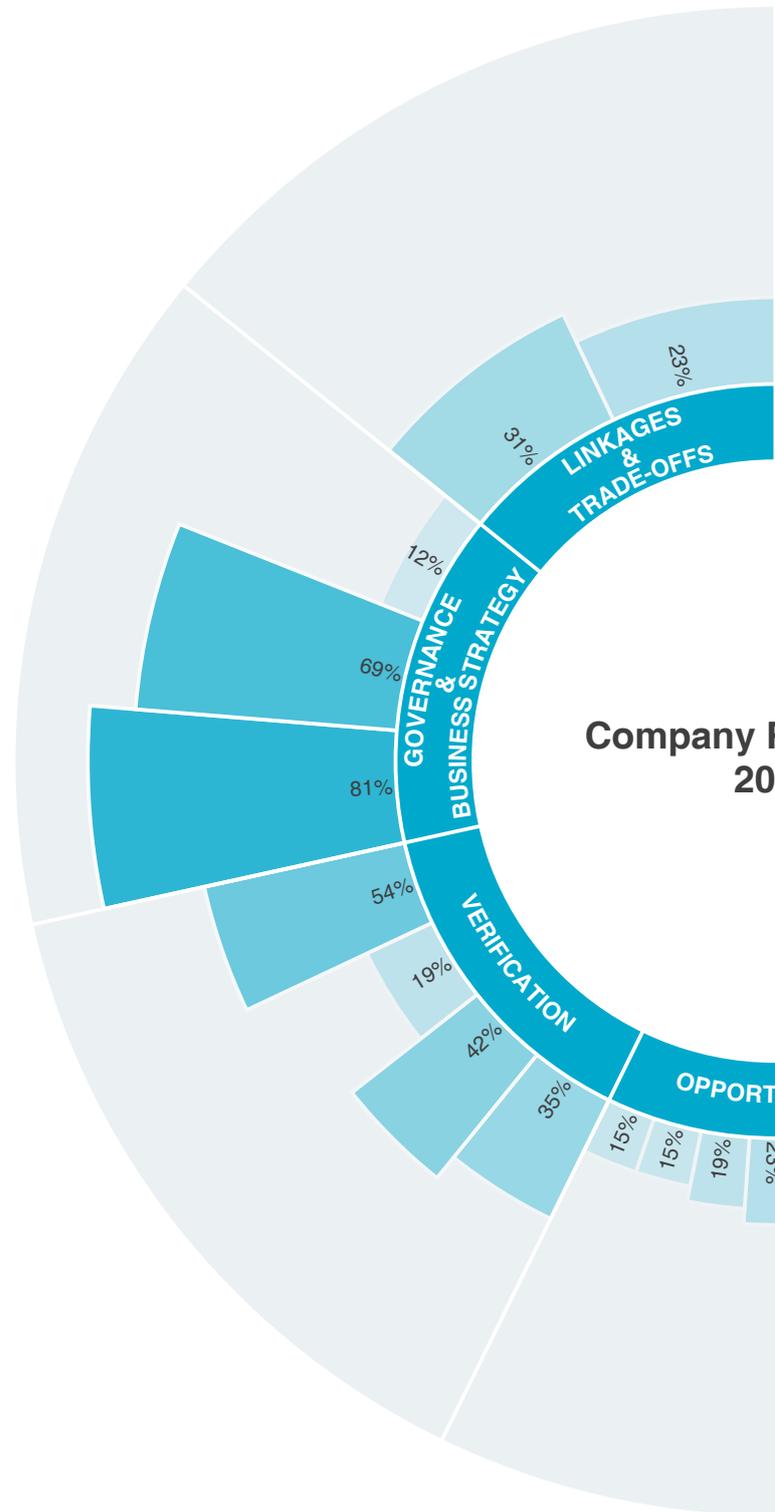
OPPORTUNITIES

The structure of the water security questionnaire allows a company to tell investors, customers and other data users about its water stewardship journey. That's why CDP also invites companies to share any water-related operational or market opportunities being realized that could substantively benefit their business. With this module data users now understand the current state of a company's use of water and how water-related opportunities are identified.

- 96% of the respondents identified water-related opportunities with the potential to have a substantive financial or strategic impact on the business

Primary water-related opportunities:

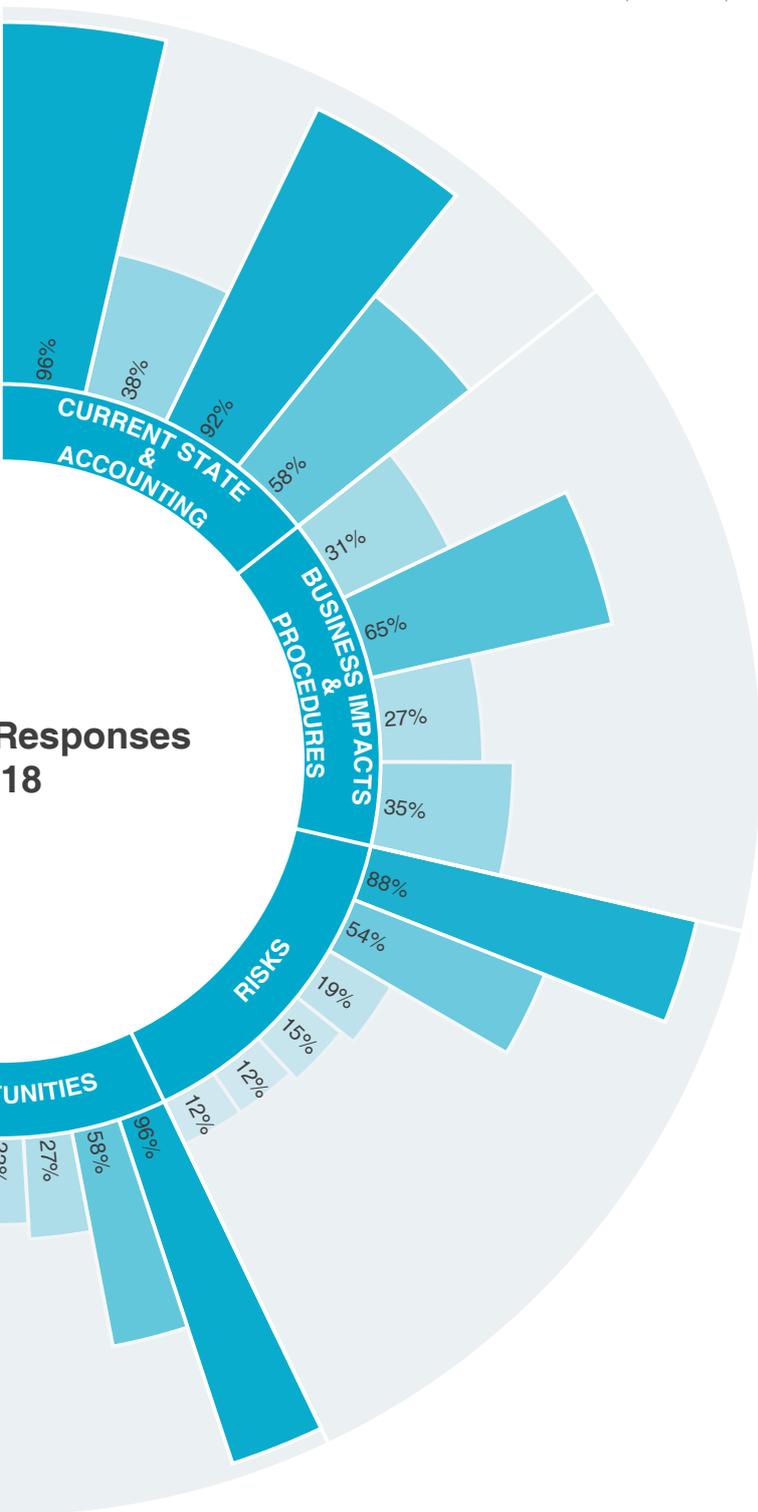
- Cost savings 58%
- Increased brand value 27%
- Improved water efficiency in operations 23%
- Sales of new products/services 19%
- Stronger competitive advantage 15%
- Increased sales of existing products/services 15%



CURRENT STATE & ACCOUNTING

The information in this module allows CDP data users to build a picture of the dependence of a company's direct operations and wider value chain on sufficient amounts of water of a particular quality, currently and for future growth, and where in the value chain most dependence on water lies. To understand an organization's resilience, it is important to understand the potential to reduce reliance on freshwater sources. The questions allow company to demonstrate how well it understands its corporate hydrology by providing information on the monitoring of relevant water aspects, and volumetric data on withdrawals - including withdrawals in water stressed areas, discharges, consumption, and recycling.

- ▶ 96% regularly measured and monitored more than 50% of the water aspects across all operations
- ▶ 38% more than 50% of total withdrawals sourced from water-stressed areas
- ▶ 92% of the respondents provide total water discharge data by destination
- ▶ 58% of the respondents provide water recycle or reuse percentages



BUSINESS IMPACTS & PROCEDURES

This module asks about water-related impacts on an organization and responds to them. These are impacts that have occurred in the past reporting year, including those resulting from regulatory violations. Procedures module requests information about the procedures that organizations have in place to manage issues salient to their sector and to understand inherent risk exposure. These management procedures are considered important for water security - independent of a company's own perception or assessment of any associated net risk for their company. This is why CDP asks companies to answer these questions before disclosing whether they consider themselves exposed to substantive water-related risks and what those risks are.

- ▶ 31% of the respondents assessed water risks as part of an enterprise risk management framework
- ▶ 65% of the respondents assessed water risks as part of the other company-wide risk assessment systems
- ▶ 27% assessed water risks in an environmental risk assessment.
- ▶ 35% assessed water-related risks for more than 10 years

RISKS

An understanding of the number, location and nature of inherent water risks is valuable for disclosing companies, as well as CDP data users. This module allows companies to show that they have a clear awareness of the extent to which they are exposed to inherent water risks in their direct operations and other parts of their value chain. CDP asks companies to report substantive water-related risks, the potential impacts of those risks and share details of their associated response strategies.

- ▶ 88% of the respondents identified inherent water-related risks with the potential to have a substantive financial or strategic impact on the business

Potential impacts of identified risks in the direct operations are:

- ▶ Increased operating costs 54%
- ▶ Reduction or disruption in production capacity 19%
- ▶ Brand damage 15%
- ▶ Closure of operations 12%
- ▶ Increased production costs 12%

COMPANY RESPONSES OVERVIEW

WATER / TURKEY 2018

CDP's Water Program motivates companies to disclose and reduce their environmental impacts by using the power of investors and customers. The data CDP collects helps influential decision makers to reduce risk, capitalize on opportunities and drive action towards a more sustainable world.

Each year CDP asks companies to systematically report data relating to their water use, water-related risks and opportunities and their governance of water. By contextualizing and sharing this information with investors, companies, policy makers and other stakeholders, CDP catalyzes action by companies to secure freshwater resources for all.

CDP's water program acts on behalf of more than **650 institutional investors, representing US\$87 trillion in assets**. These investors use CDP water data to engage with portfolio companies, inform investment decisions and catalyze change. In addition, **more than 110 purchasing organizations, with a combined spend of US\$3 trillion**, use CDP water data to drive greater insight, accountability and action throughout their global supply chains.

On behalf of investor signatories, in the fourth year of the CDP Water Program in Turkey, we asked 50 companies to provide data about their efforts to manage and govern freshwater resources. We selected these companies from Borsa Istanbul 100 (BIST-100) index based on economic and environmental indicators (largest listed companies in high water impact industries). In total, **27 companies responded to CDP's water program in Turkey** up from 23 companies (17% increase) last year. Out of 27 respondents, 13 were self-selected (SSCs) and 14 were included in the Turkey sample that received an official invitation. Therefore, the response rate of the official sample is 28% (22% in 2017).

General water security questionnaire structure: From 2018, revisions to the questionnaire structure and content reflect trends in corporate water reporting, the evolving needs of water data users, developments in public policy agendas, greater alignment with CDP's climate change and forests questionnaires, and CDP's move to sector questionnaires. The modular structure still broadly reflects the narrative of the **CEO Water Mandate** Guidelines, assisting companies on a water stewardship journey. However, there are new and revised modules, sections and questions to improve the discloser's experience and provide more robust and relevant data.

To support the development of standards that are both valuable for companies and provide investors, policy makers and other data-users with meaningful information, CDP works with a range of organizations; such as the CEO Water Mandate, the World Resources Institute, WWF, World Business Council for Sustainable Development, the Global Reporting Initiative, the Alliance for Water Stewardship, Ceres, Sustainability Accounting Standards Board (SASB) and similar organizations. Standardization is needed to facilitate transparency and reporting as well as to support consistency and comparability for data users.

This chapter is aimed at companies and investors seeking to understand how they can play their part in delivering a water-secure world. It presents summary findings from our analyses of 26 (one of the companies responded to the short version of the questionnaire) responding company disclosures in response to the CDP Water 2018 Information Request. It sets out the company actions that will contribute to water-secure world and how companies are overcoming the barriers to water security. In this chapter, we track corporate action across five key areas explained below.

▼ Current State & Accounting

The information in this module allows CDP data users to build a picture of the dependence of company's direct operations and wider value chain on sufficient amounts of water of a particular quality, currently and for future growth, and where in the value chain most dependence on water lies. To understand an organization's resilience, it is important to understand the potential to reduce reliance on freshwater sources.

Companies are asked to **rate the importance (current and future) of water quality** and water quantity to the success of their business. The companies disclosing from Turkey claim that having sufficient good quality freshwater for their own use is either important (62%) or vital (65%) for their business.

27
disclosing
companies in
total

65%
sufficient
good quality
freshwater is
vital for the
business

As an electricity producer, freshwater is and will always be a vital component of **ZORLU DOĞAL**'s production and direct operations both now and in the future as both their Hydroelectric power plants and geothermal power plants use water as the primary input for production. Compared with their direct operations, freshwater availability in terms of quality and quantity has considerably less importance rating for their indirect operations in general.

To have a good understanding of their water risk, all companies should measure and monitor their water aspects. A significant portion of responding companies (96%) reporting via CDP now **measure and monitor more than 50% of all water aspects** across all operations (sites/facilities/operations). Rather 88% regularly measure and monitor all water aspects.

Percentage of companies that regularly measure and monitor more than 50% of all water aspects across all operations

| | |
|------|-----|
| 2015 | 79% |
| 2016 | 58% |
| 2017 | 83% |
| 2018 | 96% |

While **27%** of responding companies have measured that their **water consumption** is lower than the previous year, **27%** of the companies report an increase. In terms of water withdrawals, **38%** of responding companies report a decrease, while **35%** measured an increase compared to previous year. Half of the companies reported that total water discharge by destination is higher compare to the previous year.

Most of the **water withdrawal** is sourced from third party sources (73%) and most of the water is discharged to third party destinations (88%) which shows water crosses the company boundary, at either the corporate level or facility level.

The most frequently cited water withdrawal sources and water discharge destinations

| Total water withdrawal by source | |
|--|-----|
| Third party sources | 73% |
| Groundwater – renewable | 62% |
| Fresh surface water, including rainwater, water from wetlands, rivers, and lakes | 35% |
| Groundwater – non-renewable | 31% |
| Brackish surface water/seawater | 19% |
| Total water discharge data by destination | |
| Third-party destinations | 88% |
| Fresh surface water | 46% |
| Brackish surface water/seawawter | 23% |

Water is vital for **BRISA's** operations and they have set KPI's for water withdrawal for their operations in Izmit and Aksaray production facilities. For this reason, their water withdrawals from utilities and wells are monitored by flow meters and cross checked with billed amounts (100%). Also, as part of their ISO 14046 water footprint inventory, they monitor their water accounting data from all locations under their operational control.

Total water consumption water of **ÇİMSA** is decreased by 24% compared to the previous year. The main reason of this reduction is increased amount of reused waste water. The other reason is the reduced amount of white cement production that needs high amount of water.

27%
water
consumption
is lower than
the previous
year

73%
water
withdrawal is
sourced from
third party
sources

38 percent of responding companies reported that more than 50% of **total withdrawals sourced from water-stressed areas**. 15 percent of companies reported that total water-withdrawals sourced from water stressed areas are higher compared to the previous reporting year.

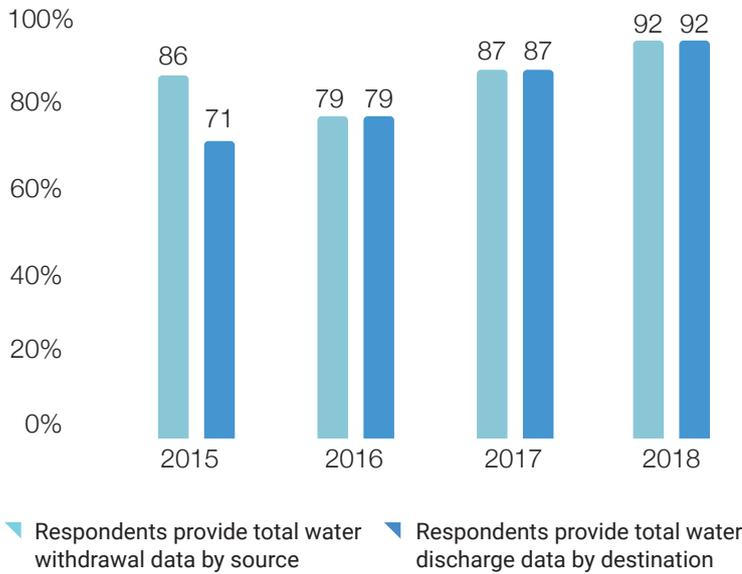
As per **accounting of water use**, **92%** (87% in 2017) of responding companies gave account of their water withdrawals by source via CDP. A further 92% also provided total water discharge data by destination.

58 percent of responding companies provide **water recycle or reuse** percentages and 15% of companies reported that more than 50% of total water use is recycled and reused. Four percent reported that total volume of recycled and reused water use is lower and 15% reported that it is higher compared to the previous year.

58%

provide water recycle or reuse percentages

Percentages of total water withdrawal data by source and total water discharge data by destination



The module also asks about **engagement activity** around water in the value chain and a rationale for it. In regions where water sources are highly restricted, organization's water consumption patterns can influence relations with other stakeholders and access to water can be dependent on those relationships. 69 percent of responding companies engage with the value chain on water-related issues. 38 percent (22% in 2017) of respondents also ask their **suppliers to report on their water use**, risks and/or management information and a further 15% require more than 50% all of those aspects to be reported by their suppliers.

Source Vulnerability Assessment Study for **COCA COLA İÇECEK** is conducted by water specialists for each plant that includes topographical, geological, hydrological assessment of the study areas and any risks for the sustainability of water resources, including social, environmental and political risks for their facilities and surrounding communities. It must be renewed for each plant in every 5 years. Results are then evaluated by an action plan with a "Source Water Protection Plan" reviewed every year and water risk assessments are updated for all plants. With the help of this customized and sensitive research, water stress is determined and the plant categorized accordingly.

92%

provided total water discharge data by destination

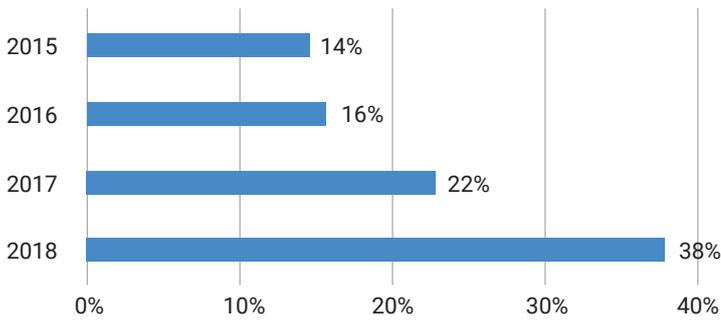
Recycled water is used in Lüleburgaz and Bursa natural gas power plants of **ZORLU ENERJİ**. Lüleburgaz facility uses well water and recycled water. The water obtained from Zorlu Textiles' (sister company and located at the same area) wastewater treatment plant is purified in Lüleburgaz Natural Gas Plant and the resulting clean water is used in the operations. Wastewater is transferred back to Zorlu Textiles' wastewater treatment plant. Bursa facility supplies water from organized industrial zone which is two different qualities. First quality water is fresh water. Organized industrial zone purifies the wastewater and after treatment, it is supplied as second quality water. Recycled water amount that is 5.33% for the reporting year, is about the same with the previous reporting year.

69%

engage with the value chain on water-related issues

GARANTİ BANK believes that the most material risks associated to water along the value chain for banking sector are those related to the loan portfolio. Therefore, Garanti Bank has intensified its efforts to manage indirect water risks, through a detailed Environmental and Social Impact Assessment Process since 2012. Nevertheless, Garanti is also managing its water-related risks in supply chain by asking its suppliers to comply with its ISO14001 certified Environmental Management System. In the upcoming years, Garanti's major supplier contracts is targeted to include specific provisions regarding compliance with Garanti Bank's EMS. Once this target is realized and a certain level of awareness among the entire supply chain is achieved, Garanti will consider requesting regular reporting for water-related data from its suppliers.

Percentage of respondents that require suppliers to report on their water use, risks and/or management information



Business Impacts & Procedures

A company should understand how water-related issues have impacted it in the past. It will provide insight into the water risks a company may be exposed to. This module asks about water-related impacts and responses to them.

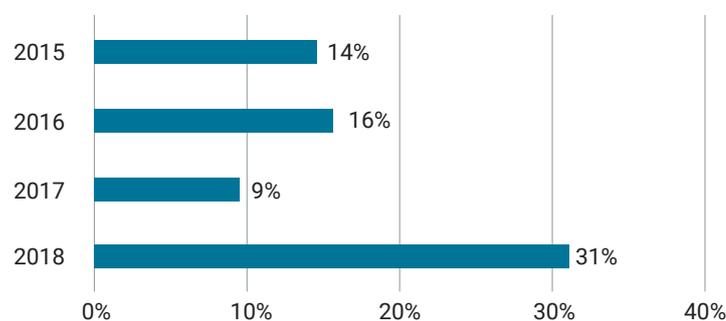
There are financial risks that companies face from water issues. 31 percent (13% in 2017) of companies in Turkey reported suffering from some sort of water-related issue (**experienced detrimental impacts**) over the reporting period -mostly related to flooding or droughts- with a total estimate water-related financial impact of US\$1.37 billion (US\$1.88 billion in 2017).

The most frequently cited impact drivers:

- Flooding: **15%**
- Drought: **8%**
- Declining water quality: **8%**
- Inadequate infrastructure: **4%**

As there is no globally recognized standard for water risk assessment, procedures module provides evidence as to the robustness, comprehensiveness and integrity of an organization’s risk assessment. A comprehensive risk assessment is essential for companies to develop a clear understanding of physical, regulatory and reputational exposures as well as opportunities available. 96 percent (78% in 2017) of responding companies state that **water risks are assessed**. However, water-exposed companies should conduct risk assessments that are company-wide and comprehensive, including their direct operations and their supply chains. 31% of disclosing companies meet this higher standard -up from 9% in 2017. 35 percent of companies assessed water-related risks for more than 10 years.

Percentage of companies that assessed their water related risks including direct operations and supply chains



Water withdrawals are the most **externally verified** water accounting data (54%). 38 percent of respondents verified other water information besides the company’s CDP disclosure on the following items.

| Percentages of externally verified water accounting data | |
|--|------------|
| Water consumption | 35% |
| Water discharge | 42% |
| Water recycled/reused | 19% |
| Water withdrawals | 54% |

31%
experienced
detrimental water-
related impacts

The following contextual issues are the most frequently considered ones in the organization’s water-related risk assessments:

- Water-related regulatory frameworks **92%**
- Access to fully-functioning, safely managed WASH services for all employees **92%**
- Water quality at a basin **88%**
- Water availability at a basin **88%**
- Status of ecosystems and habitats **73%**
- Stakeholder conflicts concerning water resources at a basin **62%**
- Implications of water on company’s key commodities/raw materials **54%**

Stakeholders that are always considered in the organization’s water-related risk assessments are employees (92%) and investors (88%); and the least considered ones are the statutory special interest groups at a local level (27%).

35%
assessed water-related
risks for more than
10 years

Risks & Opportunities

CDP asks companies to report **substantive water-related risks**, the potential impacts of those risks and share details of their associated response strategies. CDP also invites companies to share any water-related operational or market opportunities being realized that could substantively benefit their business.

88 percent (70% in 2017) of responding companies **identified inherent water-related risks** with the potential to have a substantive financial or strategic impact on the business. A further 46% identified the risks both in direct operations and the rest of value chain. 62 percent of responding companies reported that more than 50% of company-wide facilities are exposed to water risks. That percentage at the facilities on river basin is 50%.

Physical risks are the most reported types of risks in the direct operations (85%) and also in the value chain (38%). Increased operating costs are **the most reported potential impact** (54%) of identified risks in the direct operations; in the value chain the most reported risk driver is drought (15%).

46 percent of companies anticipate that the **substantive financial or strategic impacts** of identified risks in direct operations will be realized within one to six years. A further 27% anticipate that it is going to realize in the reporting year.

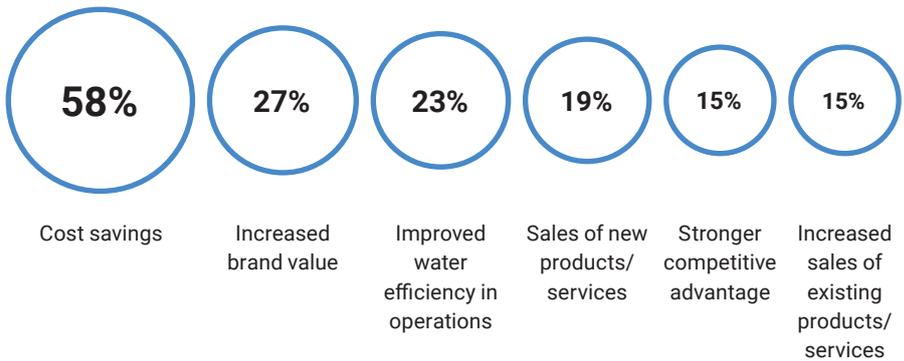
There are also positive opportunities identified from taking action on water issues. 96 percent (87% in 2017) of responding companies identified **water-related opportunities** with the potential to have a substantive financial or strategic impact on the business. Efficiency (69%) and Markets (58%) are the most reported types of opportunities currently being realized.

88%
identified
inherent water-
related risks

| The most frequently reported primary risk drivers in the direct operations: | |
|---|-----|
| Flooding | 27% |
| Increased water scarcity | 27% |
| Drought | 23% |
| Increased water stress | 23% |
| Declining water quality | 19% |
| Higher water prices | 19% |

| The most frequently reported potential impacts of identified risks in the direct operations: | |
|--|-----|
| Increased operating costs | 54% |
| Reduction or disruption in production capacity | 19% |
| Brand damage | 15% |

Primary water-related opportunities



Governance

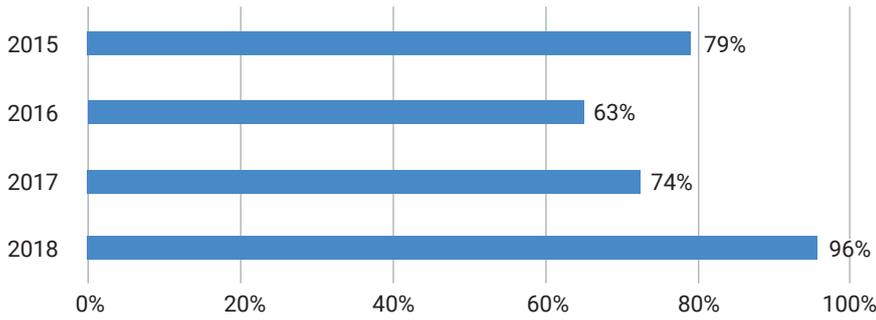
Water governance must be in the boardroom of every major corporation. By providing board members with the information and tools to plan for a transition to a water-secure world and by publicly monitoring their progress, water stewardship can become part of companies' business strategy.

81 percent of responding companies have **company-wide water policy** in Turkey. A further 92% engage in activities that could either directly or indirectly influence public policy on water. 96 percent (74% in 2017) of companies have a **board level oversight** of water-related issues within the organization. In more than half of the responding companies (58%), CEO is the one with responsibility for water-related issues.

81%
have a
company-wide
water policy

96%
have board-
level oversight
of water-related
issues

Percentage of companies with board level oversight of water-related issues



Protecting the environment and affected communities, maintaining sustainability, identifying, eliminating and minimising all hazards, risks, environmental and social impacts and complying with all the standards and regulations of the country are all priorities of **ENKA İNŞAAT**. As per the requirements of customers of projects, ENKA builds and operates water and wastewater treatments plants in all projects and facilities it operates. By funding R&D through its Design Center, ENKA aims to be a leader in developing innovative solutions with regards to minimizing water consumption and relevant costs.

Business strategy

The purpose of this module is to collect information on how a company is adapting its long-term business model to secure a sustainable future, in terms of both its own resilience and securing water for all. It flags that companies need to consider how to include water-related issues in long term planning/strategy and they must also be accounted for financially.

69% of responding companies identified water-related outcomes from the organization's **climate-related scenario analysis**. 73 percent of respondents use climate-related scenario analysis to inform its business strategy.

Only 12% of companies use an **internal price on water** which is comparable to the 18% of companies that use an internal carbon price in Turkey.

Looking at the longer term, 88% (87% in 2017) of respondents in Turkey are integrating water-related issues into organization's **long-term strategic business plan**. A further 38% integrated those issues into strategic business plan for more than 10 years. Although of those companies including water in their long-term strategies, the time horizon considered is still not fully factoring in the SDG timeframe out to 2030.

Setting ambitious targets and goals is the first step toward reducing water impact. The ambition and scope of targets and goals can increase as the company matures in its approach to water. An increase in this scope shows the commitment of companies in Turkey on managing and sustaining water security. CDP defines a 'target' as a specific measurable output within a clear timeline, while a 'goal' aims to achieve a longer-term qualitative outcome or a specific change in behavior or circumstances. Targets are quantifiable objectives to manage water resources, and goals are qualitative aims leading towards improved water stewardship.

Most (85%) of the businesses reporting this year have set **company-wide targets and goals** in place to better manage water risks. This is a substantial increase from the 73% reporting the same last year.

Being a fundamental commodity and an irreplaceable input in **BRISA's** operations, water-related costs and potential financial impacts (risk or opportunity) is always factored into company's financial planning. Starting from the last quarter of the reporting period, they have started producing the steam needed for their production instead of outsourcing, which has increased their dependency in water availability considerably. Therefore, they plan their water budget annually, in line with production estimations and anticipated water costs. Internal water price anticipated for the reporting period was USD 0.96 per cubic meter of water. This price is based on local water utility tariff rates and is subject to revision on an annual basis.

73%
use climate-related scenario analysis

12%
use an internal price on water

MİGROS has integrated issues related with water efficiency in their long-term business plan by setting long-term targets and taking actions to achieve these targets. Migros follows a reduction target for water consumption in two parameters. Reducing water consumption per employee is followed annually and per 5 years. Daily water consumption per square meter is followed annually and per 15 years. To achieve these targets, performance improvement studies are carried out in a short, medium and long-term. Following their water consumption also means them lower operational costs in addition to the provided efficiency. This is an additional motivation for them to integrate water-related issues to their strategic plans. 11-15 year long-time horizon is used because they have targets to reduce their water consumption up to 15 years.

85%
company-wide targets and goals in place to manage water risks

42 percent of responding companies achieved more than 50% of their **water targets**. Water withdrawals are the most common category of targets that are monitored at the corporate level (35%).

The most common category of **water-related goals** monitored at the corporate level are engagement with public policy makers to advance sustainable water management/ policies (23%) and providing access to safely managed Water, Sanitation and Hygiene (WASH) in workplace (23%).

The percentage of respondents that provide **quantitative metric** for water targets is 73% (83% in 2017). A further 77% (83% in 2017) provide **description of water goals**.

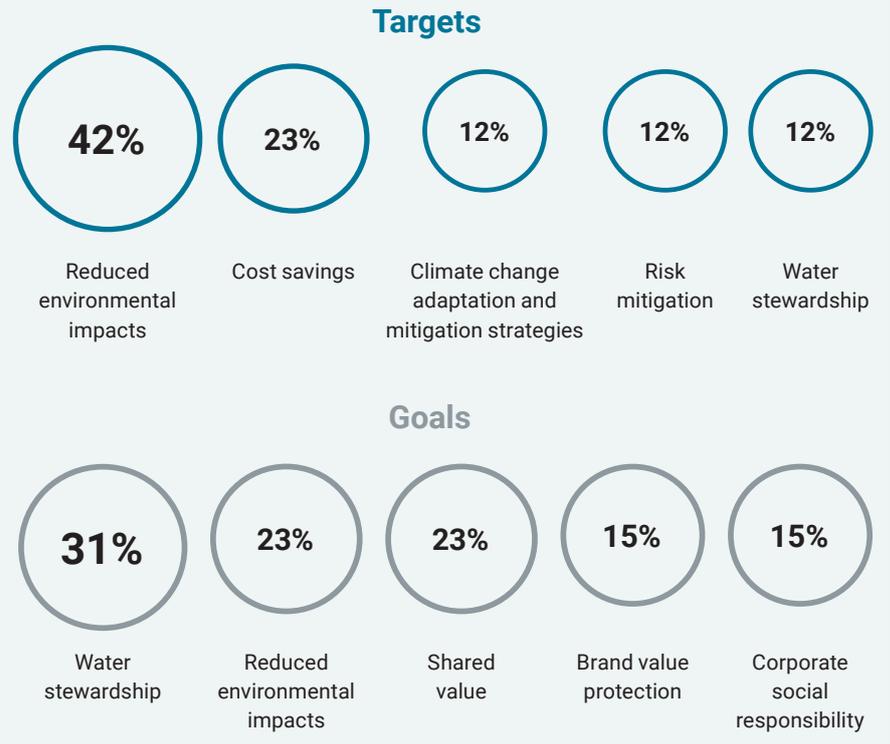
Increasingly, companies will be required to manage water withdrawals, consumption, and discharges simultaneously with management of other environmental issues e.g. energy consumption and greenhouse gas emissions. Linkage is a relationship where management of water has a positive impact on another environmental issue. On the other hand, tradeoff is a relationship where management of water has a negative impact on another environmental issue.

88 percent of responding companies identified **linkages or tradeoffs** between water and other environmental issues in the direct operations and/or other parts of the value chain. Decreased energy use is the most common reported type of linkage (31%) and increased energy use is the most common reported type of tradeoff (23%).

73%
provide
quantitative
metric for water
targets

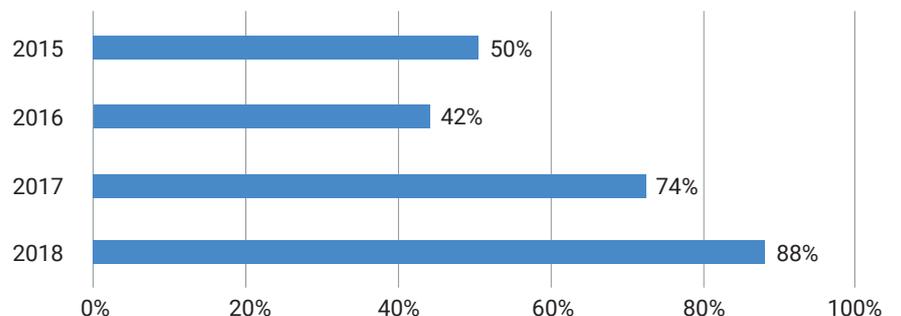
88%
identified linkages or
tradeoffs between
water and other
environmental issues

Motivations behind the water-related targets and goals:



To manage the linkages and tradeoffs, **ARÇELİK** integrates ISO 14001, ISO 50001 and ISO 14064-1 systems into its business operations. In 2016, they achieved 174124 m3 of water savings through efficient water usage. Some of the improvement projects they have conducted during the reporting period are as follows: 15630 m3 water was decreased in Compressor Plant through renewal of soft water production plant used in heating-cooling, washing and coating processes. Thanks to recycling of biological waste water and rainwater usage project, a total of 70813 m3 water was reused in Washing Machine Plant. 8910 m3 of savings was achieved by means of the reduction in water consumption at the Dishwasher Plant. With this water saving approximately 17795 kwh of energy was saved.

Percentage of companies that identified linkages or tradeoffs between water and other environmental issues



CDP TURKEY LEADERS 2018

| Company | Sector | Score |
|--------------------------------------|------------------------|-------|
| ARÇELİK A.Ş. | Consumer discretionary | A- |
| ASELSAN ELEKTRONİK SAN. VE TİC. A.Ş. | Industrials | A- |
| T.GARANTİ BANKASI A.Ş. | Financials | A- |

WE MEAN BUSINESS COMMITMENTS TURKEY 2018

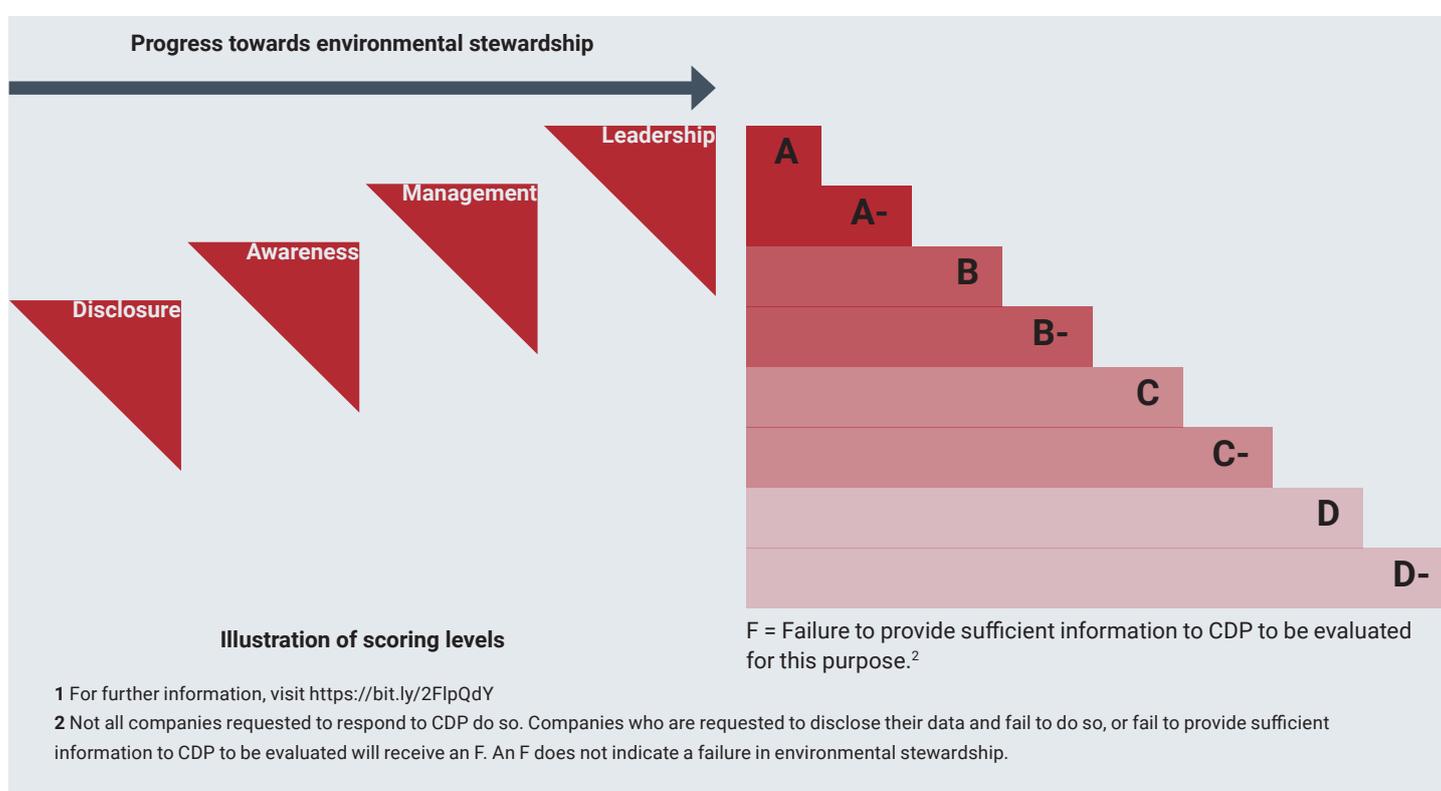
7 companies from 5 different sectors made 13 "We Mean" Commitments

| Company | Sector | SBTs | Responsible Climate Policy | Climate Policy | Climate Change Reporting | RE100 | Carbon Pricing | Reporting |
|--|------------------------|------|----------------------------|----------------|--------------------------|-------|----------------|-----------|
| AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. | Construction Materials | | | | | | | |
| ARÇELİK A.Ş. | Consumer Discretionary | | | | | | | |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN.VE TİC.A.Ş. | Tires | | | | | | | |
| ÇİMSA ÇİMENTO SANAYİ VE TİCARET A.Ş. | Construction Materials | | | | | | | |
| ŞEKERBANK T.A.Ş. | Financials | | | | | | | |
| T.GARANTİ BANKASI A.Ş. | Financials | | | | | | | |
| T.SINAI KALKINMA BANKASI A.Ş. | Financials | | | | | | | |

CDP SCORING METHODOLOGY

CDP scoring lays down milestones marking the progress of a company's sustainable journey. It provides a road map to companies to compare themselves to the best in class. The scoring methodology has evolved over time to influence company behavior in order to improve their environmental performance. Scoring at CDP is mission-driven, focusing on principles and values for a sustainable economy, and highlighting the business case for change.

CDP's 2018 questionnaires are focused on the high-impact sample companies in each of the three themes – Climate Change, Water, and Forests. To operationalize this approach, CDP developed a new Activity Classification System (CDP - ACS)¹, a three-tiered system starting from the lower rung of Activity, going up to Activity Group and, finally, Industry. This framework categorizes companies by the most relevant sectors. It focuses on the diverse activities from which companies derive revenue and associates these with the impacts on their business from climate change, water security and deforestation. This helps ensure a better understanding of company actions according to their environmental risk, opportunity and impact and is essential for better comparability of data.



Each of the questionnaires have a unique scoring methodology. The sector-based approach allows CDP to make more meaningful assessments of companies' responses, incorporating each sector's characteristics and nuances, resulting in a score that reflects the company's progress in environmental stewardship and enabling better benchmarking against other companies.

The scoring of CDP's questionnaires is conducted by accredited scoring partners trained by CDP. CDP's internal scoring team coordinates and collates all scores and run data quality checks and quality assurance processes to ensure that scoring standards are aligned between samples and scoring partners.

Further guidance on the 2018 general questions and sector questions can be downloaded from: www.cdp.net/guidance/guidance-for-companies. Responding companies are assessed across four consecutive levels which represent the steps a company moves through as it progresses towards environmental stewardship: Disclosure which measures the completeness of the company's response; Awareness which intends to measure the extent to which the company has assessed environmental issues, risks and impacts in relation to its business; Management which is a measure of the extent to which the company has implemented actions, policies and strategies to address environmental issues; and Leadership which looks for particular steps a company has taken which represent best practice in the field of environmental management.

Questions may include criteria for scoring across more than one level. The criteria for scoring the levels are distributed throughout the questionnaire. All of the questions are scored for the disclosure level. Some of the questions have no awareness, management or leadership level scoring associated with them.

▼ Scoring categories and weightings

This year, the number of categories per theme has increased from 2017, in order to better focus on key data points and provide a more detailed breakdown of a company's score. Scoring categories in 2018 are sub-groups of the 2018 questionnaire modules and are unique to each theme, but within each theme they are consistent across all sectors. Each sector within each theme is affected by and manages environmental issues in a specific way. To capture these specificities, different weightings will be applied amongst sector scoring categories in each theme.³

Weightings are applied by calculating the Management and Leadership score per scoring category in the same way as previous years: $\text{Numerator/Denominator} * 100$. These % scores are then translated into a category score per level by calculating the proportion of points achieved relative to the category weighting: $\text{Category weighting (\%)} / 100 * \text{Management/Leadership score (\%)}$. The category scores for each level are then summed together to calculate the overall final score.

Scoring weightings will only be applied to each of the scoring categories at Management and Leadership level. Where a scoring category consists of new questions, low weightings will reflect this. Weightings will be applied differently across sector categories for each theme to reflect this.

Public scores are available in CDP reports, through Bloomberg terminals, Google Finance and Deutsche Boerse's website. CDP operates a strict conflict of interest policy with regards to scoring.

| Climate Change | Water |
|----------------|----------|
| > 65% | > 55% |
| 1 - 64% | 1 - 54% |
| 45 - 74% | 45 - 69% |
| < 45% | |
| 45 - 79% | |
| < 45% | |
| 45 - 79% | |
| < 45% | |

The table is an example of the General Scoring methodology category weightings.

| Category | Management Weighting | Leadership Weighting |
|--|----------------------|----------------------|
| Governance | 12.0% | 12.5% |
| Risk management processes | 10.0% | |
| Risk Disclosure | 8.0% | |
| Opportunity Disclosure | 8.0% | |
| Business Impact Assessment & Financial Planning Assessment | 5 | |
| Business Strategy | 5 | |
| Scenario Analysis | 1 | |
| Targets | 12 | |
| Emissions reductions initiatives and low carbon products | 5 | |
| Scope 1 & 2 emissions (incl. verification) | 12 | |
| Scope 3 emissions (incl. verification) | 5 | |
| Emissions breakdowns | 0 | |
| Energy | 6.0 | 7.0 |
| Additional climate-related metrics (incl. verification) | 0.0 | |
| Carbon pricing | 2.0 | 0.0 |
| Value chain engagement | 5.0 | |
| Public policy engagement | 1.0 | 0.0 |
| Communications | 1.0 | 0.5 |
| Sign off | 2.0 | |
| 100% Disclosure points | 0.0 | 2.0 |
| Overall Total | 100% | 100% |

RESPONSE STATUS

CLIMATE CHANGE / TURKEY 2018

| Company - Requested | Primary Questionnaire | GICS Sector | 2018 Score | 2018 Response Status | 2017 Response Status | 2018 Permission Status | 2018 Disclosed Emissions |
|--|-----------------------|------------------------|------------|----------------------|----------------------|------------------------|--------------------------|
| CDP Turkey Climate Change Sample (BIST-100 Companies) | | | | | | | |
| AFYON ÇİMENTO SANAYİ T.A.Ş. | Cement | Materials | D | AQ | AQ | Public | 1,2 |
| AKBANK T.A.Ş. | General | Financials | D | AQ | AQ | Public | 1,2,3 |
| AKÇANSA ÇİMENTO SANAYİ VE TİC. A.Ş. | Cement | Materials | D | AQ | AQ | Private | 1,2,3 |
| AKENERJİ ELEKTRİK ÜRETİM A.Ş. | Electric utilities | Utilities | C | AQ | AQ | Public | 1,2,3 |
| AKSA AKRİLİK KİMYA SANAYİİ A.Ş. | Chemicals | Consumer Discretionary | NP | AQ | DP | Private | 1,2,3 |
| AKSA ENERJİ ÜRETİM A.Ş. | Electric utilities | Utilities | F | DP | NR | | |
| ALARKO HOLDİNG A.Ş. | General | Industrials | F | DP | AQ | | |
| ALCATEL LUCENT TELETAS TELEKOMÜNİKASYON A.Ş. | General | Information Technology | F | DP | DP | | |
| ALKIM ALKALİ KİMYA A.Ş. | Paper & forestry | Consumer Discretionary | F | NR | X | | |
| ANADOLU CAM SANAYİİ A.Ş. (T.ŞİŞE VE CAM FAB. A.Ş.) | General | Materials | X | SA | SA | | |
| ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş. | Food,beverage,tobacco | Consumer Staples | B- | AQ | NR | Private | 1,2,3 |
| ANADOLU HAYAT EMEKLİLİK A.Ş. | General | Financials | F | NR | NR | | |
| ANEL ELEKTRİK PROJE TAAHÜT VE TİCARET A.Ş. | General | Industrials | F | NR | X | | |
| ARÇELİK A.Ş. | General | Consumer Discretionary | A- | AQ | AQ | Public | 1,2,3 |
| ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş. | General | Industrials | A- | AQ | AQ | Public | 1,2,3 |
| AYGAZ A.Ş. | General | Utilities | F | NR | NR | | |
| BAGFAŞ BANDIRMA GÜBRE FABRİKALARI A.Ş. | Chemicals | Materials | F | NR | AQ | | |
| BANVİT BANDIRMA VİTAMİNLİ YEM SANAYİİ A.Ş. | Food,beverage,tobacco | Consumer Staples | F | NR | X | | |
| BEŞİKTAŞ FUTBOL YATIRIMLARI SANAYİ VE TİC. A.Ş. | General | Consumer Discretionary | F | NR | AQ | | |
| BİM BİRLEŞİK MAĞAZALAR A.Ş. | General | Consumer Staples | F | DP | DP | | |
| BİZİM TOPTAN SATIŞ MAĞAZALARI A.Ş. | General | Consumer Staples | F | DP | NR | | |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | General | Consumer Discretionary | B | AQ | AQ | Public | 1,2,3 |
| CARREFOURSA CARREFOUR SABANCI TİC. MERKEZİ A.Ş. | General | Consumer Staples | F | NR | DP | | |
| COCA-COLA İÇECEK A.Ş. | General | Consumer Staples | B | AQ | AQ | Public | 1,2,3 |
| ÇELEBİ HAVA SERVİSİ A.Ş. | General | Industrials | D | AQ | AQ | Private | 1,2 |
| ÇEMTAŞ ÇELİK MAKİNA SANAYİ VE TİCARET A.Ş. | Metals & mining | Materials | F | DP | X | | |
| ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş. | Cement | Materials | B | AQ | AQ | Public | 1,2,3 |
| DENİZBANK A.Ş. | General | Financials | F | DP | X | | |
| DEVA HOLDİNG A.Ş. | General | Financials | F | NR | NR | | |
| DOĞAN ŞİRKETLER GRUBU HOLDİNG A.Ş. | Electric utilities | Industrials | F | NR | AQ | | |
| DOĞUŞ OTOMOTİV SERVİS VE TİCARET A.Ş. | General | Consumer Discretionary | F | NR | DP | | |
| EGE ENDUSTRİ VE TİCARET A.Ş. | Transport OEMS - EPM | Consumer Discretionary | F | NR | NR | | |
| EİS ECZACIBAŞI İLAÇ, SİNAİ VE FİN. YAT. SAN. VE TİC. A.Ş. | General | Health Care | F | NR | NR | | |
| EMLAK KONUT GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş. | General | Financials | F | NR | X | | |
| ENKA İNŞAAT VE SANAYİ A.Ş. | Electric utilities | Industrials | B- | AQ | NR | Public | 1,2,3 |
| ERBOSAN ERCİYAS BORU SANAYİİ VE TİC. A.Ş. | Metals & mining | Materials | F | NR | X | | |
| EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş. | Steel | Materials | F | NR | NR | | |

| Company - Requested | Primary Questionnaire | GICS Sector | 2018 Score | 2018 Response Status | 2017 Response Status | 2018 Permission Status | 2018 Disclosed Emissions |
|--|-----------------------|------------------------|------------|----------------------|----------------------|------------------------|--------------------------|
| CDP Turkey Climate Change Sample (BIST-100 Companies) | | | | | | | |
| FENERBAHÇE SPOR TİF HİZMETLER SAN. VE TİC. A.Ş. | General | Consumer Discretionary | F | NR | NR | | |
| QNB FİNANSBANK A.Ş. | General | Financials | F | NR | NR | | |
| FORD OTOMOTİV SANAYİ A.Ş. | Transport OEMS | Consumer Discretionary | C | AQ | AQ | Public | 1,2,3 |
| GALATASARAY SPOR TİF SİNİİ VE YATIRIMLAR A.Ş. | General | Consumer Discretionary | F | NR | NR | | |
| GLOBAL YATIRIM HOLDİNG A.Ş. | General | Financials | F | NR | NR | | |
| GOODYEAR LASTİKLERİ T.A.Ş. | General | Consumer Discretionary | F | NR | NR | | |
| GÖLTAŞ GÖLLER BÖLGESİ ÇİMENTO SAN. VE TİC.A.Ş. | Cement | Materials | F | NR | NR | | |
| GSD HOLDİNG A.Ş. | General | Financials | NP | AQ | NR | Private | |
| GÜBRE FABRİKALARI T.A.Ş. | Chemicals | Materials | F | NR | NR | | |
| HÜRRİYET GAZETECİLİK VE MATBAACILIK A.Ş. | General | Consumer Discretionary | F | DP | NR | | |
| İHLAS HOLDİNG A.Ş. | General | Industrials | F | NR | NR | | |
| İPEK DOĞAL ENERJİ KAYNAKLARI ARŞ. VE ÜRETİM A.Ş. | Oil & gas | Energy | F | NR | NR | | |
| İZMİR DEMİR ÇELİK SANAYİ A.Ş. | Steel | Materials | F | NR | NR | | |
| KARDEMİR KARABÜK DEMİR ÇELİK SAN. VE TİC. A.Ş. | Steel | Materials | D | AQ | AQ | Private | 1 |
| KARSAN OTOMOTİV SANAYİİ VE TİCARET A.Ş. | Transport OEMS | Consumer Discretionary | F | NR | NR | | |
| KARTONSAN KARTON SANAYİ VE TİCARET A.Ş. | Paper & forestry | Materials | F | NR | DP | | |
| KENT GIDA MADDELERİ SANAYİİ VE TİCARET A.Ş. | Food,beverage,tobacco | Consumer Staples | F | NR | X | | |
| KOÇ HOLDİNG A.Ş. | Oil & gas | Industrials | F | NR | NR | | |
| KONYA ÇİMENTO SANAYİİ A.Ş. | Cement | Materials | F | NR | NR | | |
| KORDSA TEKNİK TEKSTİL A.Ş. | General | Consumer Discretionary | C | AQ | AQ | Public | 1,2,3 |
| KOZA ALTIN İŞLETMELERİ A.Ş. | Metals & mining | Materials | F | NR | NR | | |
| KOZA ANADOLU METAL MADENCİLİK İŞLETMELERİ A.Ş. | Coal | Materials | F | NR | NR | | |
| MAVİ GİYİM SANAYİ VE TİCARET A.Ş. | General | Consumer Discretionary | F | NR | X | | |
| METRO TİCARİ VE MALİ YATIRIMLAR HOLDİNG A.Ş. | General | Consumer Staples | F | NR | NR | | |
| MİGROS TİCARET A.Ş. | General | Consumer Staples | B | AQ | AQ | Public | 1,2,3 |
| NETAŞ TELEKOMÜNİKASYON A.Ş. | General | Information Technology | D | AQ | AQ | Private | 1,2,3 |
| ODAŞ ELEKTRİK ÜRETİM SANAYİ TİCARET A.Ş. | Electric utilities | Utilities | F | NR | NR | | |
| OTOKAR OTOMOTİV VE SAVUNMA SANAYİ A.Ş. | Transport OEMS | Industrials | F | NR | DP | | |
| PARK ELEKTRİK ÜRETİM MADENCİLİK SANAYİ VE TİC. A.Ş. | General | Materials | F | NR | NR | | |
| PEGASUS HAVA TAŞIMACILIĞI A.Ş. | Transport services | Industrials | B | AQ | AQ | Public | 1.2 |
| PETKİM PETROKİMYA HOLDİNG A.Ş. | Chemicals | Materials | F | NR | NR | | |
| POLİSAN HOLDİNG A.Ş. | Chemicals | Materials | D | AQ | AQ | Private | 1.2 |
| SABANCI HOLDİNG A.Ş. | General | Financials | F | DP | AQ | | |
| SASA POLYESTER SANAYİ A.Ş. | Chemicals | Materials | F | NR | X | | |
| SODA SANAYİ A.Ş. (T.ŞİŞE VE CAM FABRİKALARI A.Ş.) | Chemicals | Materials | X | SA | SA | | |
| ŞEKERBANK T.A.Ş. | General | Financials | B | AQ | AQ | Public | 1,2,3 |
| T.GARANTİ BANKASI A.Ş. | General | Financials | A- | AQ | AQ | Public | 1,2,3 |

| Company - Requested | Primary Questionnaire | GICS Sector | 2018 Score | 2018 Response Status | 2017 Response Status | 2018 Permission Status | 2018 Disclosed Emissions |
|--|------------------------|----------------------------|------------|----------------------|----------------------|------------------------|--------------------------|
| CDP Turkey Climate Change Sample (BIST-100 Companies) | | | | | | | |
| T.İŞ BANKASI A.Ş. | General | Financials | F | NR | NR | | |
| T.SINAI KALKINMA BANKASI A.Ş. | General | Financials | B | AQ | AQ | Public | 1,2,3 |
| T.ŞİŞE VE CAM FABRİKALARI A.Ş. | General | Industrials | C | AQ | AQ | Public | 1.2 |
| TAT GIDA SANAYİİ A.Ş. | Food, beverage,tobacco | Consumer Staples | F | NR | NR | | |
| TAV HAVA LİMANLARI HOLDİNG A.Ş. | General | Industrials | C | AQ | AQ | Private | 1,2,3 |
| TEKFEN HOLDİNG A.Ş. | General | Industrials | B | AQ | AQ | Public | 1,2,3 |
| TEKNOSA İÇ VE DIŞ TİCARET A.Ş. | General | Consumer Discretionary | F | NR | X | | |
| TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. | Transport OEMS | Consumer Discretionary | B | AQ | AQ | Public | 1,2,3 |
| TRABZONSPOR SPOR TİF YATIRIM VE TİC. A.Ş. | General | Consumer Discretionary | F | NR | NR | | |
| TRAKYA CAM SANAYİİ A.Ş. (T.ŞİŞE VE CAM FAB. A.Ş.) | General | Industrials | X | SA | SA | | |
| TURCAS PETROL A.Ş. | Oil & gas | Energy | F | NR | NR | | |
| TURKCELL İLETİŞİM HİZMETLERİ A.Ş. | General | Telecommunication Services | C | AQ | AQ | Public | 1,2,3 |
| TÜMOSAN MOTOR VE TRAKTÖR SANAYİ A.Ş. | General | Industrials | F | NR | AQ | | |
| TÜPRAŞ-TÜRKİYE PETROL RAFİNERİLERİ A.Ş. | Oil & gas | Energy | F | NR | NR | | |
| TÜRK HAVA YOLLARI A.O. | Transport services | Industrials | F | NR | NR | | |
| TÜRK TELEKOMÜNİKASYON A.Ş. | General | Telecommunication Services | C | AQ | AQ | Private | 1,2,3 |
| TÜRK TRAKTÖR VE ZİRAAT MAKİNELERİ A.Ş. | General | Industrials | F | NR | NR | | |
| TÜRK TUBORG BİRA VE MALT SANAYİ A.Ş. | Food, beverage,tobacco | Consumer Staples | F | NR | NR | | |
| TÜRKİYE HALK BANKASI A.Ş. | General | Financials | B | AQ | AQ | Public | 1,2,3 |
| TÜRKİYE KALKINMA BANKASI A.Ş. | General | Financials | F | DP | AQ | | |
| TÜRKİYE VAKIFLAR BANKASI T.A.O. | General | Financials | B | AQ | AQ | Public | 1,2,3 |
| ÜLKER BİSKÜVİ SANAYİ A.Ş. | Food, beverage,tobacco | Consumer Staples | F | DP | AQ | | |
| VESTEL ELEKTRONİK SANAYİ VE TİC. A.Ş. | General | Consumer Discretionary | B | AQ | AQ | Public | 1,2,3 |
| YAPI VE KREDİ BANKASI A.Ş. | General | Financials | C | AQ | AQ | Public | 1,2,3 |
| YATAŞ YATAK VE YORGAN SAN. VE TİC. A.Ş. | General | Industrials | F | NR | X | | |
| YAZICILAR HOLDİNG A.Ş. | Transport OEMS - EPM | Industrials | F | NR | NR | | |
| ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş. | Electric utilities | Utilities | B- | AQ | AQ | Public | 1,2,3 |

| Company - Requested | Primary Questionnaire | GICS Sector | 2018 Score | 2018 Response Status | 2017 Response Status | 2018 Permission Status | 2018 Disclosed Emissions |
|---|-----------------------|------------------------|------------|----------------------|----------------------|------------------------|--------------------------|
| Other Responding Companies | | | | | | | |
| ALBARAKA TÜRK KATILIM BANKASI A.Ş. | General | Financials | C | AQ | AQ | Public | 1,2,3 |
| DURAN DOĞAN BASIM VE AMBALAJ A.Ş. | General | Materials | B | AQ | AQ | Private | 1,2,3 |
| EKOTEN SANAYİ VE TEKSTİL A.Ş. | General | Consumer Discretionary | B | AQ | AQ | Public | 1,2,3 |
| KAYSERİ ULAŞIM A.Ş. | Transport services | Industrials | B | AQ | AQ | Public | 1,2,3 |
| PINAR ENTEGRE ET VE UN SANAYİİ A.Ş. | Food,beverage,tobacco | Consumer Staples | B | AQ | AQ | Private | 1,2,3 |
| PINAR SÜT MAMULLERİ SANAYİİ A.Ş. | Food,beverage,tobacco | Consumer Staples | B | AQ | AQ | Private | 1,2,3 |
| SUN SANAYİ VE TEKSTİL A.Ş. (EKOTEN SA. VE TEKSTİL A.Ş.) | General | Consumer Discretionary | X | SA | SA | | |
| VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş. | General | Consumer Discretionary | C | AQ | AQ | Public | 1,2,3 |
| YÜNSA YÜNLÜ SANAYİ VE TİCARET A.Ş. | General | Consumer Discretionary | B- | AQ | AQ | Private | 1,2,3 |
| ZORLU DOĞAL ELEKTRİK ÜRETİMİ A.Ş. | Electric utilities | Utilities | B | AQ | AQ | Public | 1,2,3 |

Key to Response Status Tables

(AQ) Answered questionnaire

(NR) No response

(DP) Declined to Participate

(F) Failure to provide sufficient information to CDP to be evaluated for this purpose

(NP) Not public since first time responder

(X) Company was not included in any CDP samples in that year

(SA) Company is either a subsidiary or the parent company is already responding to CDP

See company in brackets for further information on company status.

RESPONSE STATUS

WATER / TURKEY 2018

| Company - Requested | Primary Questionnaire | GICS Sector | 2018 Score | 2018 Response Status | 2017 Response Status | 2018 Permission Status | Water Withdrawal | Water Discharge | Water Consumption |
|---|-----------------------|------------------------|------------|----------------------|----------------------|------------------------|------------------|-----------------|-------------------|
| CDP Turkey Water Sample | | | | | | | | | |
| AFYON ÇİMENTO SANAYİ T.A.Ş. | Cement | Materials | F | DP | DP | | | | |
| AKSA AKRİLİK KİMYA SANAYİİ A.Ş. | Chemicals | Consumer Discretionary | B- | AQ | DP | Private | D | D | D |
| AKSA ENERJİ ÜRETİM A.Ş. | Electric utilities | Utilities | F | DP | NR | | | | |
| ALARKO HOLDİNG A.Ş. | General | Industrials | F | DP | NR | | | | |
| ANADOLU CAM SANAYİİ A.Ş. | General | Materials | F | DP | NR | | | | |
| ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş. | Food,beverage,tobacco | Consumer Staples | F | NR | NR | | | | |
| ARÇELİK A.Ş. | General | Consumer Discretionary | B | AQ | AQ | Public | D | D | D |
| ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş. | General | Industrials | F | NR | DP | | | | |
| AYGAZ A.Ş. | General | Utilities | F | NR | NR | | | | |
| BİM BİRLEŞİK MAĞAZALAR A.Ş. | General | Consumer Staples | F | DP | DP | | | | |
| BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş. | Metals & mining | Materials | F | NR | DP | | | | |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | General | Consumer Discretionary | B | AQ | AQ | Public | D | D | D |
| CARREFOURSA CARREFOUR SABANCI TİC. MERKEZİ A.Ş. | General | Consumer Staples | F | NR | DP | | | | |
| COCA-COLA İÇECEK A.Ş. | General | Consumer Staples | B- | AQ | AQ | Public | D | D | D |
| ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş. | Cement | Materials | B- | AQ | AQ | Public | D | D | D |
| EİS ECZACIBAŞI İLAÇ, SINAİ VE FİN. YAT. SAN. VE TİC. A.Ş. | General | Health Care | F | NR | NR | | | | |
| ENKA İNŞAAT VE SANAYİ A.Ş. | Electric utilities | Industrials | B- | AQ | NR | Public | D | D | D |
| EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş. | Steel | Materials | F | NR | NR | | | | |
| FORD OTOMOTİV SANAYİ A.Ş. | Transport OEMS | Consumer Discretionary | C | AQ | AQ | Public | D | D | D |
| GOODYEAR LASTİKLERİ T.A.Ş. | General | Consumer Discretionary | F | NR | NR | | | | |
| GÜBRE FABRİKALARI T.A.Ş. | Chemicals | Materials | F | NR | NR | | | | |
| KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş. | Steel | Materials | F | DP | DP | | | | |
| KOÇ HOLDİNG A.Ş. | Oil & gas | Industrials | F | NR | NR | | | | |
| KONYA ÇİMENTO SANAYİİ A.Ş. | Cement | Materials | F | NR | NR | | | | |
| KORDSA TEKNİK TEKSTİL A.Ş. | General | Consumer Discretionary | B- | AQ | AQ | Public | D | D | D |
| KOZA ALTIN İŞLETMELERİ A.Ş. | Metals & mining | Materials | F | NR | NR | | | | |
| KOZA ANADOLU METAL MADENCİLİK İŞLETMELERİ A.Ş. | Coal | Materials | F | NR | NR | | | | |
| MİGROS TİCARET A.Ş. | General | Consumer Staples | B | AQ | DP | Public | D | D | |
| NET HOLDİNG A.Ş. | General | Consumer Discretionary | F | NR | NR | | | | |
| OTOKAR OTOMOTİV VE SAVUNMA SANAYİ A.Ş. | Transport OEMS | Industrials | F | NR | DP | | | | |
| PETKİM PETROKİMYA HOLDİNG A.Ş. | Chemicals | Materials | F | NR | NR | | | | |
| POLİSAN HOLDİNG A.Ş. | Chemicals | Materials | C | AQ | NR | Private | D | D | D |
| SODA SANAYİ A.Ş. | Chemicals | Materials | F | DP | NR | | | | |
| T.ŞİŞE VE CAM FABRİKALARI A.Ş. | General | Industrials | F | DP | DP | | | | |
| TEKFEN HOLDİNG A.Ş. | General | Industrials | B | AQ | NR | Public | D | D | D |
| TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. | Transport OEMS | Consumer Discretionary | B- | AQ | AQ | Public | D | D | D |
| TRAKYA CAM SANAYİİ A.Ş. | General | Industrials | F | DP | NR | | | | |

| Company - Requested | Primary Questionnaire | GICS Sector | 2018 Score | 2018 Response Status | 2017 Response Status | 2018 Permission Status | Water Withdrawal | Water Discharge | Water Consumption |
|--|-----------------------|------------------------|------------|----------------------|----------------------|------------------------|------------------|-----------------|-------------------|
| CDP Turkey Water Sample | | | | | | | | | |
| TÜMOSAN MOTOR VE TRAKTÖR SANAYİ A.Ş. | General | Industrials | F | NR | AQ | | | | |
| TÜPRAŞ-TÜRKİYE PETROL RAFİNERİLERİ A.Ş. | Oil & gas | Energy | F | NR | NR | | | | |
| TÜRK TRAKTÖR VE ZİRAAT MAKİNELERİ A.Ş. | General | Industrials | F | NR | NR | | | | |
| TÜRK TUBORG BİRA VE MALT SANAYİ A.Ş. | Food,beverage,tobacco | Consumer Staples | F | NR | NR | | | | |
| ÜLKER BİSKÜVİ SANAYİ A.Ş. | Food,beverage,tobacco | Consumer Staples | F | DP | NR | | | | |
| VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş. | General | Consumer Discretionary | B- | AQ | AQ | Public | D | D | D |
| VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş. | General | Consumer Discretionary | F | DP | NR | | | | |
| YAZICILAR HOLDİNG A.Ş. | Transport OEMS - EPM | Industrials | F | NR | NR | | | | |
| ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş. | Electric utilities | Utilities | B- | AQ | AQ | Public | D | D | D |

| Company - Requested | Primary Questionnaire | GICS Sector | 2018 Score | 2018 Response Status | 2017 Response Status | 2018 Permission Status | Water Withdrawal | Water Discharge | Water Consumption |
|--|-----------------------|------------------------|------------|----------------------|----------------------|------------------------|------------------|-----------------|-------------------|
| Other Responding Companies | | | | | | | | | |
| AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. | Cement | Materials | C | AQ | AQ | Private | D | D | D |
| AKENERJİ ELEKTRİK ÜRETİM A.Ş. | Electric utilities | Utilities | B- | AQ | AQ | Public | D | D | D |
| ALBARAKA TÜRK KATILIM BANKASI A.Ş. | General | Financials | C | AQ | X | Public | D | D | D |
| DURAN DOĞAN BASIM VE AMBALAJ A.Ş. | General | Materials | NS | AQ | X | Private | | | |
| PINAR ENTEGRE ET VE UN SANAYİİ A.Ş. | Food,beverage,tobacco | Consumer Staples | B- | AQ | AQ | Private | D | D | D |
| PINAR SÜT MAMULLERİ SANAYİİ A.Ş. | Food,beverage,tobacco | Consumer Staples | B | AQ | AQ | Private | D | D | D |
| ŞEKERBANK T.A.Ş. | General | Financials | B- | AQ | AQ | Public | D | D | D |
| T.GARANTİ BANKASI A.Ş. | General | Financials | B- | AQ | AQ | Public | D | D | D |
| TAV HAVA LİMANLARI HOLDİNG A.Ş. | General | Industrials | C | AQ | AQ | Private | D | D | D |
| TÜRKİYE HALK BANKASI A.Ş. | General | Financials | B- | AQ | AQ | Public | D | D | D |
| YAPI VE KREDİ BANKASI A.Ş. | General | Financials | B | AQ | X | Public | D | D | D |
| YÜNİSA YÜNLÜ SANAYİ VE TİCARET A.Ş. | General | Consumer Discretionary | B- | AQ | AQ | Private | D | D | D |
| ZORLU DOĞAL ELEKTRİK ÜRETİMİ A.Ş. | Electric utilities | Utilities | B- | AQ | AQ | Public | D | D | D |

Key to Response Status Tables

(AQ) Answered questionnaire

(NR) No response

(DP) Declined to Participate

(F) Failure to provide sufficient information to CDP to be evaluated for this purpose

(NS) Not scored

(X) Company was not included in any CDP samples in that year

(SA) Company is either a subsidiary or the parent company is already responding to CDP

See company in brackets for further information on company status

CDP PARTNER IN TURKEY

Sabancı University Corporate Governance Forum

Team Members



Melsa Ararat
Director, CDP Turkey



Mirhan Köroğlu Göğüş
Project Manager



Zeynep Temel
Young Professionals Program

Important Notice

The contents of this report may be used by anyone providing acknowledgement is given to CDP Worldwide (CDP). This does not represent a license to repackage or resell any of the data reported to CDP or the contributing authors and presented in this report. If you intend to repackage or resell any of the contents of this report, you need to obtain express permission from CDP before doing so.

Sabancı University and CDP have prepared the data and analysis in this report based on responses to the CDP 2018 information request. No representation or warranty (express or implied) is given by Sabancı University or CDP as to the accuracy or completeness of the information and opinions contained in this report. You should not act upon the information contained in this publication without obtaining specific professional advice. To the extent permitted by law, Sabancı University and CDP do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this report or for any decision based on it. All information and views expressed herein by CDP and/or Sabancı University, is based on their judgment at the time of this report and are subject to change without notice due to economic, political, industry and firm-specific factors. Guest commentaries where included in this report reflect the views of their respective authors; their inclusion is not an endorsement of them.

Sabancı University and CDP and their affiliated member firms or companies, or their respective shareholders, members, partners, principals, directors, officers and/or employees, may have a position in the securities of the companies discussed herein. The securities of the companies mentioned in this document may not be eligible for sale in some states or countries, nor suitable for all types of investors; their value and the income they produce may fluctuate and/or be adversely affected by exchange rates.

'CDP Worldwide' and 'CDP' refer to CDP Worldwide, a registered charity number 1122330 and a company limited by guarantee, registered in England number 05013650.

© 2018 CDP Worldwide. All rights reserved.

DOI number: 10.5900/SU_SOM_WP2019.36896

CDP Contacts

Sue Howells
Chief Operating Officer

Antigone Theodorou
Director, Asia Pacific,
Latin America and
Partner Regions

Ji Yeon Kim
Manager, Global Operations

CDP Worldwide
4th Floor Plantation Place South
60 Great Tower Street
London EC3R 5AD
Telephone: +44 (0) 20 3818 3900
www.cdp.net

Partner Contacts

Melsa Ararat
Director

Mirhan Köroğlu Göğüş
Projects Manager

Sabancı University
Orhanlı/Tuzla 34956
Istanbul Turkey
Tel: +90 (0) 2164839682
cdpturkey.sabanciuniv.edu
mirhank@sabanciuniv.edu

Report Writer Contacts

Mirhan Köroğlu Göğüş
CDP Turkey

Melsa Ararat
CDP Turkey

Report Design

Neslihan Yumaklı Kafadar
Deloitte Turkey

CDP Partner

CDP Turkey Sponsor

CDP Turkey Report Partner