

CDP Climate Change and Water Report 2019

Written on behalf of over 525 institutional investors with US\$96 trillion in assets | Turkey Edition

CEO FOREWORD



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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.

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The current global health crisis shows resiliency in supply chains and business models – the ability to adapt to and survive shocks and disruptions - is more essential than ever. The climate crisis is a ‘threat multiplier’ and makes future economic shocks more likely. Measuring and managing environmental risks through disclosure helps companies to build resiliency and plan for the future.

Climate change is not a distant, potential threat. It is here right now, and already affecting millions of lives across the globe. The Australian bushfires, which started raging in late 2019, have affected nearly 10 million people, including at least 28 human lives that have been lost. This is just one example of recent extreme weather events made more likely by climate change.

The most devastating impact of climate change and extreme weather is always going to be loss of human life, but its impact on ecosystems, communities and the global economy can be dire too. In 2019, CDP analysis found that 215 of the biggest global companies estimate the financial implications of climate risks to be close to US\$1trillion , including US\$250 billion worth of ‘stranded assets’, at potential risk of being made economically unviable.

The cost of exceeding a temperature rise of 1.5 degrees Celsius – the proposed “guard rail” of safety by the Intergovernmental Panel on Climate Change (IPCC) – could be catastrophic. It would have grave implications on water and food security, living standards, the economy and human health for our generation, and generations to come. In economic terms the difference between 1.5 and 2 degrees is estimated at \$15 trillion in damage. We cannot afford to dither and delay substantive action any longer.

2020 is a critical year. Five years on from the Paris Agreement, the time has come for national governments to upgrade their ambition to reduce emissions through their national plans. This year

needs to herald the start of a super decade of climate action, cutting emissions in half, to give any chance of limiting global warming to 1.5°C.

And we are already seeing great examples of environmental leadership, with forward-thinking companies proactively taking action. The Science Based Targets initiative has snowballed into a global phenomenon, with more than 750 of the world’s biggest companies setting emissions reduction targets that are grounded in climate science. Likewise, corporate demand for renewable power is rapidly growing with 220+ companies now working towards 100% renewable electricity.

Transparency is the foundation for meaningful climate action. In 2019, more companies than ever before – 8,400+ representing over 50% of global market capitalization – disclosed through CDP, enabling them to comply with the Task Force on Climate-related Financial Disclosures (TCFD). Disclosure of quality data leads to smarter decisions and informs investors, companies and governments of the actions they need to take. It’s encouraging to see more companies setting longer-term targets; our data will be key to seeing how they are performing against these over time.

But growing corporate action is not enough. Governments must urgently step up their ambition to give business the clarity and confidence they need to invest in the zero-carbon future. Those who act first on climate will seize the benefits of the transition. CDP will play its part by continuing to set the standard, and providing the tools to help us achieve it together. 2020 must be the year we all play our part to ramp up worldwide ambition on climate without delay.

Paul Simpson
CEO, CDP

SPONSOR FOREWORD



Today, the business world is more than capable of changing the world for better and more prosper. Our impact is undeniably huge. Therefore, we are grateful for all companies in Turkey who respond to CDP and try to manage their environmental risks and opportunities.

Our planet warns us about the severity of the natural disasters which are triggered mostly by extreme weather events that occurred all around the world in 2019. Especially flood levels, earthquakes and hurricanes have affected many people and left them homeless. During the first half of the year, more than 10 million displacement have been recorded because of cyclones and flooding activities and more than 7 million people have lost their homes while the other half of the year has resulted around 22 million new displacement due to the new extreme weather events around the globe. Moreover, 15 extreme weather disasters are amplified by the climate change and cost humanity at least a billion dollars in each case. Seven of the events on the list cost over \$10 each in 2019.

According to the Global Risk Report 2020 by the World Economic Forum (WEF), for the first time, top five risks that the world is facing, both the level of possibility and impact, are all environment and climate change related. Based on the United Nations World Economic Situation and Prospects Report, 65% of 131 weather events were triggered through the devastating effects of climate change in the last six years. While we are all trying to understand how to tackle these issues, we have encountered with a global outbreak at the beginning of 2020 that no one could ever predict. COVID-19 virus that has affected the whole world, have deeply impacted our habits, global economy, business world and supply chain. This global outbreak that brought life to a standstill showed us how devastating our impact on the ecosystem can be.

Although we have changed our lives radically, problems threatening the humanity continue to exist. Today, we are mostly making pandemic-focused decisions and overlook the fact that the environmental and social threats will cause us to encounter such crises even more. Climate crisis is still a big part of our life as an urgency that continues to exist. Every ill-thought-out short-term step that we will take to recover the economy, will lead us to similar crises.

We have all witnessed how quickly the nature responds to the drastic measures taken worldwide. Nature is ready to cooperate, as long as we show

the same dedication and determination to tackle other problems. We have to see this “natural disaster” phase as an opportunity to battle with climate crisis. In order to manage the environmental and social risks in the best way and to fully benefit from the opportunities, the new order we will establish has to be with a focus of sustainability. As the business world we have to continue to keep this issue at the top of our agendas. We need financial and emotional collaborations more than ever.

According to the United Nations Adaptation Finance Gap Report, adaptation cost for the climate change will range between \$140-300 billion per year by 2030. Although public sector contribution is already ensured, there is a huge gap in developing countries that needs to be addressed by the help of private sector players.

During these challenging times working from our homes using technological opportunities, as the business world, we need to work in cooperation to move our economy and our country to a better and more prosperous state. There is no problem that we cannot overcome through learning from each other and creating synergies. Therefore, we are truly grateful to all companies that respond to CDP. Each response will be a new milestone for our collective battle against climate change through increasing our capability in cooperation, sharing responsibilities and setting ambitious targets. We hope to see more responding companies in the future.

Recep Baştuğ
CEO, Garanti BBVA

INTRODUCTION



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Turkey's CDP leader companies that have shown state of the art performance over the past ten years are a source of great inspiration for the late comers. They now have a greater mission; inspiring the policy makers.

Climate Action in the Time and Aftermath of Coronavirus

Ten years after we launched the CDP Climate Change Program in Turkey, the Planet Earth has briefly shut down to deal with the novel coronavirus. Finding a balance between an effective public-health response and the level of economic slowdown has become and remained a top priority for policy makers and corporate managers.

As the world faces the threat of a global recession, the pandemic may shift global attention away from addressing climate change. There is a great risk of policy makers to scale back their climate goals on the basis that the shutdown has reduced the emissions. The temporary reduction in emissions due (17.4% in Turkey), which are expected to rise very quickly in the aftermath the crises, is not going to change the likelihood of future climate shocks. The key issue is to acknowledge that climate change and pandemics are both systemic risks and both require urgent response. Coronavirus is an immediate threat, while climate change, although it is already affecting lives across the world, will unfold over decades.

The period after the COVID-19 crisis, therefore, could determine whether we can meet or miss the 2015 Paris Agreement targets. There are reasons to be optimistic. In fighting against the COVID-19, governments appreciated the value of the worldwide coordinated action, easing tensions between national interests. Second, governments are more in control of the economy as they set the rules for economic recovery. Low carbon, high growth recovery requires a policy package that quickly creates jobs and economic demand, produces steady growth, and at the same time accelerates the uptake of zero carbon technologies. Tax credits, subsidies, loans, loan guarantees, grants and equity participations can all have a green recovery compass. An economic policy paper co-authored by economists from the University of Cambridge, University of Oxford and London School of Economics and Political Science¹ identifies five policies with high potential on

both economic multiplier and climate impact metrics: clean physical infrastructure, building efficiency retrofits, investment in education and training, natural capital investment, and clean R&D or rural support.

It is time for uniting businesses and governments to act for a zero carbon, resilient economy. The Green Recovery Alliance that bring together 12 environment ministers from EU countries, 37 CEOs and business associations, 50 bank and insurance CEOs suggests that it may happen. Not all governments, however, have foresight. Policy involvement that counterbalance for rule makers' reluctance or ignorance is a must for companies that have set a sustainable trajectory for their businesses.

Turkey's CDP leader companies that have shown state of the art performance over the past ten years are a source of great inspiration for the late comers. They now have a greater mission; inspiring the policy makers.

Melsa Ararat

Director, Sabancı University Corporate Governance Forum

¹Cameron Hepburn et al, "Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?," Oxford Review of Economic Policy working paper, number 20-02, 36(S1), May 4, 2020.

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RESPONDING COMPANY LIST

CLIMATE CHANGE / TURKEY 2019

Official Investor Sample

AFYON ÇİMENTO SANAYİ T.A.Ş.
AKBANK T.A.Ş.
AKENERJİ ELEKTRİK ÜRETİM A.Ş.
AKSA AKRİLİK KİMYA SANAYİİ A.Ş.
ALBARAKA TÜRK KATILIM BANKASI A.Ş.
ANADOLU CAM SANAYİİ A.Ş.
ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş.
ARÇELİK A.Ş.
ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş.
COCA-COLA İÇECEK A.Ş.
ENERJİSA ENERJİ A.Ş.
ENKA İNŞAAT VE SANAYİ A.Ş.
FORD OTOMOTİV SANAYİ A.Ş.
KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş.
KORDSA TEKNİK TEKSTİL A.Ş.
MİGROS TİCARET A.Ş.
NETAŞ TELEKOMÜNİKASYON A.Ş.
PEGASUS HAVA TAŞIMACILIĞI A.Ş.
SABANCI HOLDİNG A.Ş.
SODA SANAYİ A.Ş.
ŞEKERBANK T.A.Ş.
T.GARANTİ BANKASI A.Ş.
T.İŞ BANKASI A.Ş.
TRAKYA CAM SANAYİİ A.Ş.
T.SINAI KALKINMA BANKASI A.Ş.
T.ŞİŞE VE CAM FABRİKALARI A.Ş.
TAV HAVA LİMANLARI HOLDİNG A.Ş.
TEKFEN HOLDİNG A.Ş.
TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş.
TURKCELL İLETİŞİM HİZMETLERİ A.Ş.
TÜRK TELEKOMÜNİKASYON A.Ş.
TÜRKİYE HALK BANKASI A.Ş.
TÜRKİYE KALKINMA VE YATIRIM BANKASI A.Ş.
TÜRKİYE VAKIFLAR BANKASI T.A.O.
ÜLKER BİSKÜVİ SANAYİ A.Ş.
VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş.
YAPI VE KREDİ BANKASI A.Ş.
ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş.

Self-Selected Companies

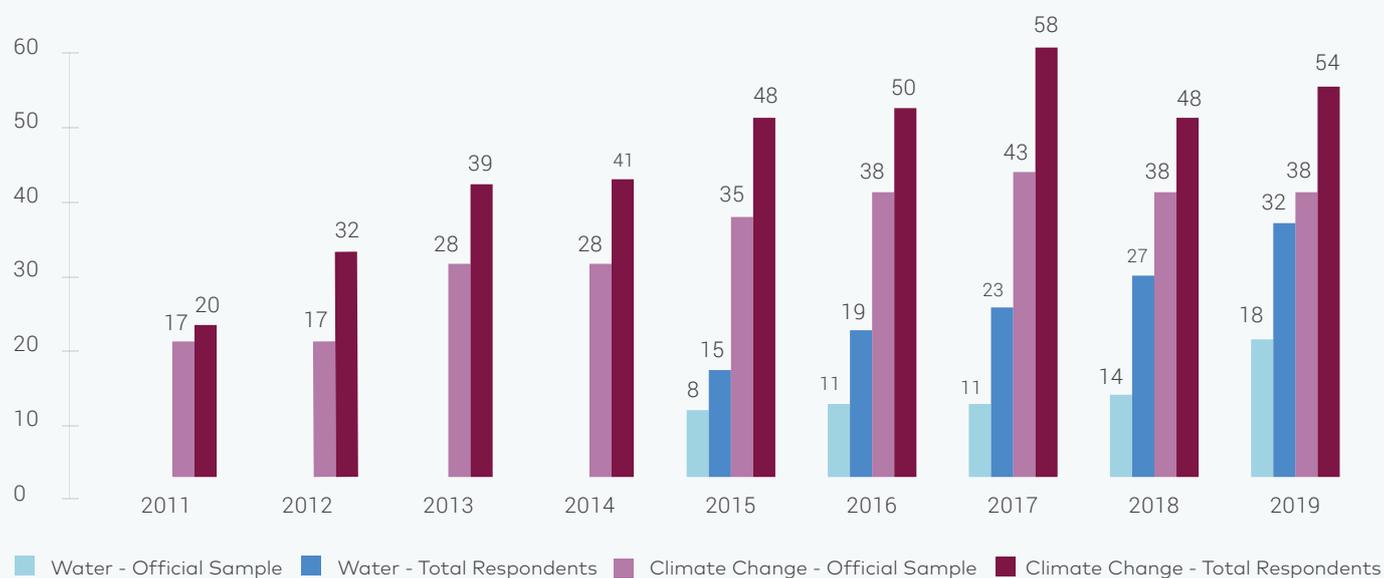
AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş.
BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş.
ÇELEBİ HAVA SERVİSİ A.Ş.
ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş.
DURAN DOĞAN BASIM VE AMBALAJ A.Ş.
EKOTEN SANAYİ VE TEKSTİL A.Ş.
ETİ SODA A.Ş.
İHLAS EV ALETLERİ İMALAT SANAYİ VE TİCARET A.Ş.
KAYSERİ ULAŞIM A.Ş.
PINAR ENTEGRE ET VE UN SANAYİİ A.Ş.
PINAR SÜT MAMULLERİ SANAYİİ A.Ş.
POLİSAN HOLDİNG A.Ş.
SUN TEKSTİL SANAYİ VE TİCARET 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 SECURITY / TURKEY 2019

| Official Investor Sample | Self-Selected Companies |
|--|---|
| AFYON ÇİMENTO SANAYİ T.A.Ş. | AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. |
| AKENERJİ ELEKTRİK ÜRETİM A.Ş. | ALBARAKA TÜRK KATILIM BANKASI A.Ş. |
| AKSA AKRİLİK KİMYA SANAYİİ A.Ş. | DURAN DOĞAN BASIM VE AMBALAJ A.Ş. |
| ARÇELİK A.Ş. | ETİ SODA A.Ş. |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | İHLAS EV ALETLERİ İMALAT SANAYİ VE TİCARET A.Ş. |
| COCA-COLA İÇECEK A.Ş. | PINAR ENTEGRE ET VE UN SANAYİİ A.Ş. |
| ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş. | PINAR SÜT MAMULLERİ SANAYİİ A.Ş. |
| ENKA İNŞAAT VE SANAYİ A.Ş. | SABANCI HOLDİNG A.Ş. |
| FORD OTOMOTİV SANAYİ A.Ş. | ŞEKERBANK T.A.Ş. |
| KORDSA TEKNİK TEKSTİL A.Ş. | T.GARANTİ BANKASI A.Ş. |
| MİGROS TİCARET A.Ş. | TÜRKİYE HALK BANKASI A.Ş. |
| POLİSAN HOLDİNG A.Ş. | YAPI VE KREDİ BANKASI A.Ş. |
| TEKFEN HOLDİNG A.Ş. | YÜNİSA YÜNLÜ SANAYİ VE TİCARET A.Ş. |
| TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. | ZORLU DOĞAL ELEKTRİK ÜRETİMİ A.Ş. |
| ÜLKER BİSKÜVİ SANAYİ A.Ş. | |
| VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş. | |
| VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş. | |
| ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş. | |

Number of responding companies since 2011



SNAPSHOT

CLIMATE CHANGE / TURKEY 2019

| Response & Scoring Summary | Governance & Strategy | Risks & Opportunities | Emissions Data | Targets & Performance | Climate Change Management |
|---|--|--|--|---|---|
| <p>Number of companies included in the analysis</p> <p>49</p> | <p>Climate-related issues integrated into business strategy</p> <p>100%</p> | <p>Climate risks and opportunities have impacted the business</p> <p>90%</p> | <p>Reported Scope 1 & 2 emissions</p> <p>92%</p> | <p>Provide products and/or services that enable a third party to avoid GHG emissions</p> <p>43%</p> | <p>Use an internal price on carbon</p> <p>26%</p> |
| <p>Number of responding companies (BIST-100 only)</p> <p>38</p> | <p>Provide incentives for the management of climate-related issues</p> <p>96%</p> | <p>Risks and opportunities have factored into organization's financial planning process</p> <p>80%</p> | <p>Scope 1 & 2 verification</p> <p>82%</p> | <p>Companies achieved their emission intensity targets</p> <p>26%</p> | <p>Developed a low-carbon transition plan to support the long-term business strategy</p> <p>16%</p> |
| <p>Number of companies scoring above management level</p> <p>33</p> | <p>Use climate-related scenario analysis to inform organization's business strategy</p> <p>57%</p> | <p>Identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on the business</p> <p>90%</p> | <p>Reported decrease in Scope 1 & 2 emissions from 2018</p> <p>47%</p> | <p>Have emissions reduction initiatives that were active within the reporting year</p> <p>88%</p> | <p>Have no Science Based Target yet but anticipate setting one in the next 2 years</p> <p>41%</p> |
| <p>Number of public responses</p> <p>36</p> | <p>Board-level oversight of climate-related issues within the organization</p> <p>96%</p> | <p>Total number of risks identified as relevant</p> <p>415</p> | <p>Reported Scope 3 emissions</p> <p>84%</p> | <p>Provide products and/or services that are classified as low-carbon products</p> <p>39%</p> | <p>Reporting engagement with the value chain on climate-related issues</p> <p>53%</p> |
| | | <p>Total number of opportunities identified</p> <p>165</p> | | | <p>Published voluntary sustainability report</p> <p>59%</p> |

SNAPSHOT

WATER SECURITY / TURKEY 2019

| Response Summary & Current State | Business Impacts & Procedures | Governance & Strategy | Risks & Opportunities | Accounting | Targets & Strategy |
|--|---|---|---|---|---|
| <p>Number of companies included in the analysis</p> <p>31</p> | <p>Organization has experienced detrimental water-related impacts</p> <p>32%</p> | <p>Reported board-level oversight of water-related issues within the organization</p> <p>97%</p> | <p>Identified water-related risks both in direct operations and the rest of the value chain</p> <p>48%</p> | <p>Total water withdrawal by source is higher than the previous reporting year</p> <p>29%</p> | <p>Company-wide targets and goals are in place</p> <p>90%</p> |
| <p>Number of public responses</p> <p>25</p> | <p>Identified flooding as the top impact driver of the water-related detrimental impacts</p> <p>16%</p> | <p>Reported engagement in activities that could influence public policy on water</p> <p>90%</p> | <p>Identified water-related opportunities and some/all are being realized</p> <p>84%</p> | <p>Total water discharge by destination is lower than the previous reporting year</p> <p>55%</p> | <p>Reduced environmental impacts reported as the most common primary motivation behind water targets</p> <p>58%</p> |
| <p>Engage with the value chain on water-related issues</p> <p>87%</p> | <p>Undertook a water-related risk assessment</p> <p>94%</p> | <p>The board chair has the responsibility for water-related issues</p> <p>13%</p> | <p>Identified risks in the direct operations with the potential to have impact on the business within a year</p> <p>19%</p> | <p>More than 50% of total water use is recycled and reused</p> <p>13%</p> | <p>More than 50% of targets are achieved</p> <p>71%</p> |
| <p>Water quality & quantity are vital for the success of the business</p> <p>58%</p> | <p>Both direct operations and supply chain have integrated in the procedures for identifying and assessing water-related risks</p> <p>35%</p> | <p>Water-related issues are integrated into the long-term (more than 10 years) strategic business plan</p> <p>48%</p> | <p>Identified cost savings as the most primary water-related opportunity</p> <p>48%</p> | <p>More than 50% of suppliers have requested to report on their water use, risks and/or management information</p> <p>19%</p> | <p>Water stewardship is the top motivation behind the water goals</p> <p>32%</p> |
| <p>Water aspects of all operations (100% of sites/facilities/operations) are regularly measured and monitored</p> <p>90%</p> | <p>Employers are the most considered stakeholders in organization's water-related risk assessments</p> <p>90%</p> | <p>Water-related issues are integrated into financial planning of the organization</p> <p>77%</p> | <p>Reported that more than 50% of company's total global revenue could be affected by water risks</p> <p>48%</p> | <p>Water withdrawal data has been externally verified</p> <p>55%</p> | <p>Identified any linkages or trade-offs between water and other environmental issues</p> <p>84%</p> |

KEY FINDINGS

CLIMATE CHANGE / TURKEY 2019

- ▼ The content of CDP responses has improved markedly for respondents in Turkey. The total number of companies to receive an A or A- is five now (three in 2018). Number of companies receive a B or B- is 28 (22 in 2018) in total. In the same manner, the number of companies receiving a C or D decreased.
- ▼ There has been a steady increase in the completeness of submissions (responding more than 75% of questionnaire) by disclosing companies. 98 percent of submissions were in the most 'complete' quartile this year suggesting that almost all companies have already recognized the value of comprehensive disclosure through CDP.
- ▼ Although all companies in Turkey stated that they have integrated climate change into their business strategy, the amount of companies conducting climate change scenario analysis to understand strategic implications of climate-related risks and opportunities (57%) suggests that there is still a room for improvement.
- ▼ Only 37% of responding companies scheduled climate-related issues as an agenda item in all strategy meetings. In those meetings, the most common discussed governance mechanisms related to business strategy is monitoring and overseeing progress against goals and targets for addressing climate-related issues.
- ▼ Companies in Turkey have been reluctant to engage in advanced climate related initiatives such as setting up Science Based Targets, putting a price on carbon or setting renewable energy targets. Only 10% (7% in 2018) of respondents consider that their target is a science-based target, but these targets have not been approved as science-based by the Science Based Targets Initiative (SBTi). The rate of companies in Turkey that use an internal carbon price is 27% (18% in 2018). Besides, only 10% of respondents have set a renewable energy consumption target.
- ▼ The risk perception of climate change is quite high, while a large number of companies are also showing an understanding of the business opportunities presented by climate action. Almost all responding companies (90%) identified inherent climate-related risks with the potential to have a substantive financial or strategic impact on the business, which is higher than the companies identified potential opportunities (78%).
- ▼ The percentage of transition risks in the direct operations (73%) and in value chain (49%) are slightly higher than the physical risks (71% and 41% accordingly). Those that identify transition risks focus on potential policy and legal changes, with the most frequently reported risk being the increased operating costs.
- ▼ Most companies in Turkey understand that they need to safeguard their reputations through effective climate change management and communication of their climate change strategy. Therefore, the most commonly reported risk type considered in the companies' climate-related risk assessments is related to reputation (94%). Increased pricing of GHG emissions is a newly added risk type in CDP's questionnaire and 39% of companies already identified it as a risk. This is attributable to the recent international developments on carbon markets, especially discussions over Article 6 of Paris Agreement.
- ▼ The frequency and time horizon for risk assessment is also key to business resilience into a business. Most (80%) Turkish companies assess the risks in every six months or even more frequently and 14% of companies assess risks annually. Further 70% consider risks for more than six years into the future with a long-term vision.
- ▼ Since 2018, companies were directly asked to report the potential financial impact figures of the risks they disclosed as a key data point in CDP's scoring methodology. 65 percent of companies provided at least one figure for the potential financial impact of risks and 59% for the potential financial impact of opportunities. These companies are leading the pack in this developing area of disclosure.
- ▼ The most frequently considered opportunity types in the organization's climate-related risk assessments are linked to new products and services (63%) affecting both the customer and direct operational parts of the supply chain. Resource efficiencies and alternative energy sources (43%) are the next most frequently identified money savers.
- ▼ 88 percent of companies in Turkey report active emissions reduction initiatives in the reporting year. More than half of companies (53%) reported that the initiatives are related to energy efficiency processes. By improving their energy efficiency, companies reduce costs.
- ▼ Energy-related activities represent the most significant GHG emission sources. Almost all companies (96%) in Turkey provides energy consumption totals including energy consumption totals from renewable sources (41%). In the reporting year, responding companies in Turkey consumed 49 Terra Watt hours (TWh) electricity in their operations of which 4.5 TWh came from renewable energy sources.
- ▼ There are differences between CDP responses and the level of information companies disclose in other channels. Even though 84% of companies published information about organization's response to climate change for this reporting year in places other than CDP response, only 59% (52% in 2018) published voluntary sustainability report.

KEY FINDINGS

WATER SECURITY / TURKEY 2019

- ▼ A significant portion of responding companies (94%) reporting via CDP now measure and monitor more than 50% of all water aspects across all operations but only 45% require their key suppliers to report water use, risk, and management.
- ▼ While 48% (27% in 2018) of responding companies have measured that, their water consumption is lower than the previous year, 26% (27% in 2018) of the companies report an increase. In terms of water withdrawals, 52% (38% in 2018) of responding companies report a decrease, while 26% (35% in 2018) measured an increase compared to previous year.
- ▼ 39 percent of companies reported that more than 50% of total withdrawals sourced from water stressed areas. Moreover, most of the water withdrawal is sourced from third party sources (71%) and most of the water is discharged to third party destinations (81%) which shows water crosses the company boundary, at either the corporate level or facility level.
- ▼ There are financial risks that companies face from water issues. 32 percent of companies in Turkey suffering from some sort of water-related issue (experienced detrimental impacts) over the reporting period— mostly related to flooding or droughts.
- ▼ 87 percent of responding companies engage with the value chain on water-related issues and 45% ask their suppliers to report on their water use, risks, and/or management information.
- ▼ 94 percent 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. 35 percent of disclosing companies meet this higher standard.
- ▼ Water is a local issue. Therefore 65% of companies in Turkey conduct risk assessment which took place at the river basin level – up from 58% in 2018- and 90% of responding companies factor local communities into their water risk assessments.
- ▼ By improving their understanding of the way in which water is managed around them, companies are better prepared to respond proactively to challenges. 48 percent of responding companies identified inherent water-related risks with the potential to have a substantive financial or strategic impact on the business both in direct operations and in the rest of our value chain.
- ▼ Physical risks are the most reported types of risks in the direct operations (77%) and in the value chain (42%). Increased operating costs are the most reported potential impact (45%) of identified risks in the direct operations; in the value chain the most reported risk drivers are drought (13%) and flooding (13%).
- ▼ In most parts of the world, water is cheap, with users often paying below-cost rates for their water supply. Only 16% of responding companies in Turkey cite higher water prices as a potential risk, either in their direct operations or along their supply chain.
- ▼ There are also positive opportunities identified from taking action on water issues. 87 percent of responding companies identified water-related opportunities with the potential to have a substantive financial or strategic impact on the business. Efficiency (71%) and markets (45%) are the most reported types of opportunities currently being realized.
- ▼ Although companies report high levels of risk exposure and board-level oversight, they have not yet tied water issues to performance. 97 percent of companies report that they have board-level oversight of water-related issues within the organization. In more than half of the responding companies (52%), CEO is the one with responsibility for water-related issues but only 58% have incentives in place for C-Suite executives on water-related issues.
- ▼ 74 percent of respondents use climate-related scenario analysis to inform its business strategy. Only 19% (12% in 2018) of companies use an internal price on water which is lower than the companies that use an internal carbon price in Turkey (27%).
- ▼ Looking at the longer term 90% of respondents in Turkey are integrating water-related issues into organization's long-term strategic business plan. A further 48% integrated those issues into strategic business plan for more than 10 years.
- ▼ Most of the companies (90%) have set company-wide targets and goals in place to better manage water risks. 71 percent of responding companies achieved more than 50% of their water targets. This is a substantial increase from last year, which was 42%. The percentage of respondents that provide quantitative metric for water targets is 94%. A further 74% provide description of water goals.
- ▼ 84 percent of responding companies identified linkages or trade-offs between water and other environmental issues in the direct operations and/or other parts of the value chain. Increased energy use is the most common reported type of trade-off (29%) and as expected, decreased energy use is the most common reported type of linkage (26%).

COMPANY RESPONSE SUMMARY

CLIMATE CHANGE / TURKEY 2019

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.

- 26% use an internal price on carbon

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.

- 96% have board-level oversight of climate-related issues within the organization
- 92% have climate risk management procedures in place
- 96% provide incentives for the management of climate-related issues

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 pre-requisite to understanding and reducing negative environmental impacts.

- 92% reported Scope 1 & 2 emissions
- 49% reported a decrease in Scope 1 & 2 emissions
- 47% reported an increase in Scope 1 & 2 emissions

TARGETS

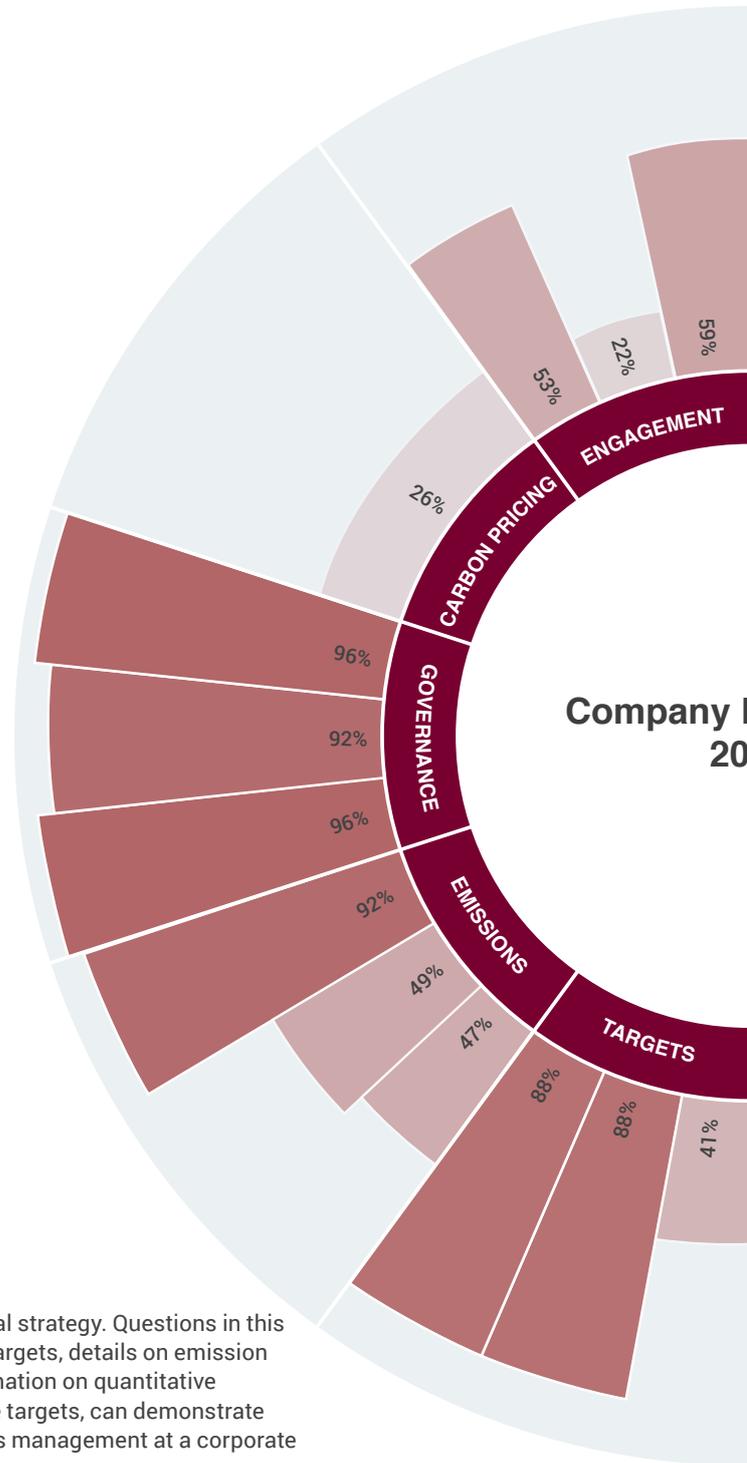
Target setting provides direction and structure to environmental strategy. Questions in this module focus on emission targets, additional climate-related targets, details on emission reduction initiatives and low-carbon products. Providing information on quantitative targets and qualitative goals, and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

- 88% have an emission target that was active in the reporting year
- 88% have an emission reduction initiatives that were active within the reporting year
- 41% reported anticipation of setting science-based targets in the next 2 years

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.

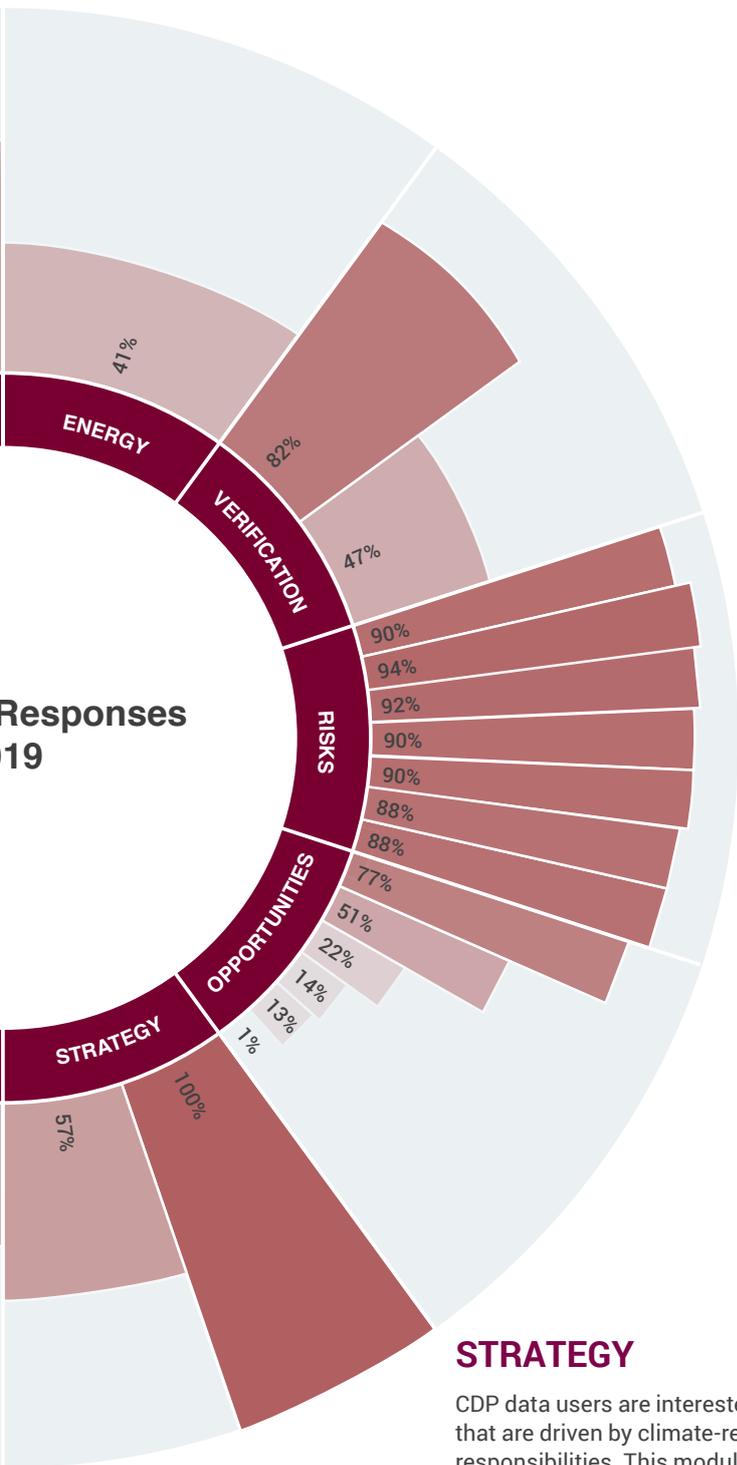
- 59% published voluntary sustainability report
- 22% reported engagement with more than 50% of suppliers
- 53% reported engagement with the value chain in climate-related issues



ENERGY

Energy related activities represent the most significant GHG emission sources. This energy module of CDP Climate Change Questionnaire provides transparency on the consumption and generation of energy by organizations. Accurate emissions accounting depends on a comprehensive account of energy. It is expected that organizations have already collected the necessary energy data for the disclosure of emissions in previous modules.

- 41% have energy consumption totals from renewable sources (excluding feedstocks) in MWh. > 0



Responses
19

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 in to their business strategy. The module also includes questions on scenario analysis and transition planning which are important evolutions in strategic environmental planning.

- 100% integrated climate-related issues into business strategy
- 57% use climate-related scenario analysis to inform organization's business strategy

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 1&2: 82%
- Scope 3: 47%

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.

- 90% 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: 94%
- Acute physical: 92%
- Emerging regulation: 90%
- Market: 90%
- Technology: 88%
- Current regulation: 88%

OPPORTUNITIES

Besides many of the challenges that companies face, climate change also presents opportunities. Among the companies that responded to opportunities module in 2019, products & services and resource efficiency appear as the mostly reported opportunity types considered in the organization's climate-related risk assessments.

- 77% identified any inherent 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: 51%
- Resource efficiency: 22%
- Markets: 14%
- Energy source: 13%
- Resilience: 1%

COMPANY RESPONSE OVERVIEW

CLIMATE CHANGE / TURKEY 2019

54
disclosing companies
in total

Disclosure of environmental risk and impact is a critical first step for insight and action on climate change. CDP's **sector specific questionnaires** provide companies with a guide to transition to a sustainable business, helping companies find clear, measurable Key Performance Indicators (KPIs) to work towards and report on which leads to a better overall performance. Besides, **investors** use this comparable information to better inform their engagement and investment decisions and ultimately protect their investments.

CDP requests information on climate risks and low-carbon opportunities from the world's largest companies on behalf of over **525 institutional investor signatories with combined assets of US\$96 trillion under management**. Globally **8360** companies disclosed to CDP Climate Change program in 2019.

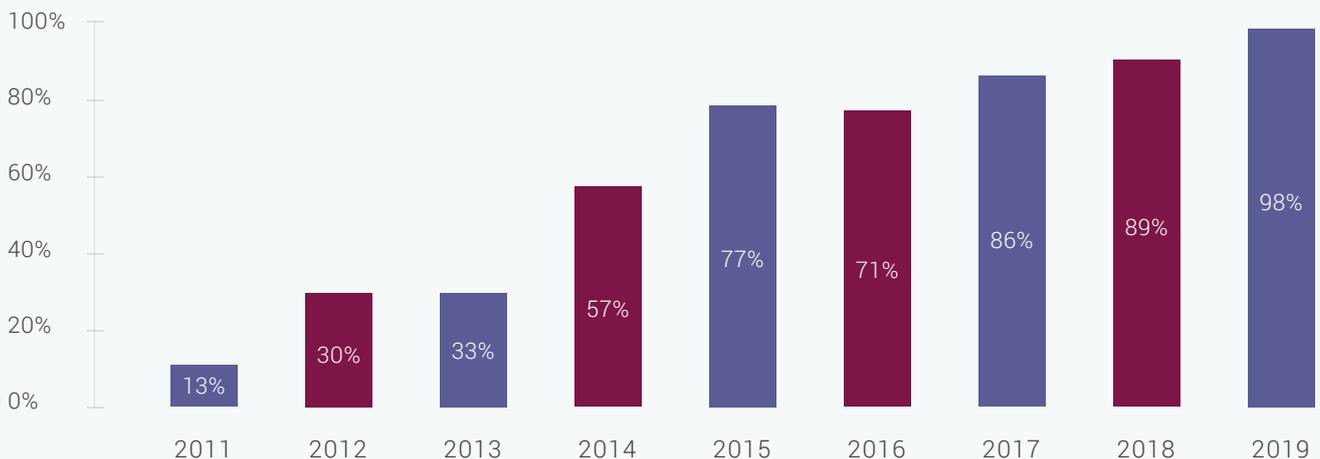
CDP requested the constituent companies of Borsa Istanbul 100 Index (BIST-100) and companies with high environmental impact in Turkey to disclose their environmental information in 2019. **In total, 54 companies responded to CDP Climate Change Program in Turkey** up from 48 companies (13% increase) in 2018. Out of 54 companies, 38 are from the official sample (BIST-100) and 16 are companies outside the official sample that report without being invited by the investors as self-selected companies

(SSCs) or companies that are listed in CDP's global environmental samples. The following **analysis in this report includes 49 companies** in total, excluding the companies responded as See Another (SA) which means that the company is a subsidiary of a parent company which responds to CDP.

CDP Turkey 2019 Climate Change analysis presents the progress made by responding companies in reducing emissions, responding to climate-related risks and opportunities, and also climate change management. Overall, companies in Turkey performed well in high-level management responsibility for climate change and emissions reporting. When compared to global CDP results however; there is a significant room for improvement for companies in setting science-based targets and internal carbon pricing.

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) by disclosing companies. 98 percent of submissions were in the most 'complete' quartile this year suggesting that almost all companies have already recognized the value of comprehensive disclosure through CDP.

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



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

90%
provide monetary rewards for the management of climate-related issues

100%
integrated climate change into business strategy

57%
deploying climate-related scenario analysis for business strategy

Albaraka Turk's scenario analysis is based on International Energy Agency (IEA) Sustainable Development Scenario. The company prefer to use this scenario because they strongly opt for the commitments to meet criteria set by the Paris Agreement as well as using TCFD by 2024 for climate related risk disclosure.

▼ How to manage climate change? Governance & Business Strategy

Climate change is now an issue at the very top of corporate decision making as companies face increasing financial and reputational risks 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 (96%) stated that they have **board-level oversight of climate-related issues** within the organization; almost half (49%) of the companies have **CEO oversight**.

Top management teams have integrated climate-related concerns in performance evaluation of key personnel. 96 percent of responding companies provide **incentives for the management of climate-related issues**, including the attainment of targets. 90 percent (84% in 2018) of the companies have monetary incentives.

For the first time in CDP's history in Turkey, all responding companies report that **climate change is integrated into their business strategy**. 37 percent of companies scheduled climate-related issues as an agenda item in strategy meetings. The most common **governance mechanisms** used by Turkish companies that have integrated climate issues in their business strategy are:

- Monitoring and overseeing progress against goals and targets for addressing climate-related issues;
- Monitoring implementation and performance of objectives;
- Overseeing major capital expenditures, acquisitions and divestitures;
- Reviewing and guiding annual budgets, business plans, major plans of action; risk management policies and strategy.

Task Force for Climate-related Financial Disclosures (TCFD) recommends the application of internal carbon price as a key metric in scenario analysis because it is forward-looking and can help companies manage climate-related risks and opportunities. Companies can also use internal carbon price as a tool to create funds to invest in low carbon transition.

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. 57 percent claim to be implementing current best practice by using a **scenario-based approach** to inform their corporate strategy around climate change, while an additional 31% anticipate that they will introduce this over the next two years.

Garanti BBVA believes that the concept of sustainability must be embedded throughout its decision making mechanisms and business processes to create value for its stakeholders. The Sustainability Committee, established for this purpose in 2010, which formally reviews and approves the Bank's activities related with sustainability, is chaired by a Board Member, and meets regularly in order to monitor the progress of and to provide input to all sustainability efforts.

Akçansa has a 'Suggestion System' and 'Continuous Improvement Project', both of which are open to all white-collar and blue-collar employees aiming for engagement and continuous operational improvement. This system encourages all employees to provide suggestions on all kinds of projects and topics including enhancement of environmental management system, energy efficiency, increasing alternative fuels rate all of which directly contribute to Climate Change Management. Suggestions, of which the best are awarded, bring the monetary award to white-collar employees and offer additional promotional opportunities to blue-collar employees.

COMPANY RESPONSE OVERVIEW

CLIMATE CHANGE / TURKEY 2019

27%
use an internal carbon price

16%
have developed a low-carbon transition plan to support the long-term business strategy

Most commonly, companies use **internal carbon price** as a tool to reveal potential opportunities that may emerge in the transition to the low-carbon economy. The number of companies embedding an internal carbon price into their business strategies has been increasing globally which is largely driven by the development of regulations that directly or indirectly price carbon and the increasing pressure from shareholders and customers on companies to adequately manage their climate-related risks. Expectedly, the rate of companies in Turkey that use an internal carbon price has also

increased from 18% to 27% compare to previous year. A further 33% plan to implement a price on carbon in the next two years. Out of 13 companies using an internal carbon price, three of them use an implicit carbon price; six use a shadow price, two use an internal fee and four companies use offsets.

16 percent (11% in 2018) of responding companies have developed a **low-carbon transition plan** to support the long-term business strategy. A further 20% plan to complete it within the next two years.

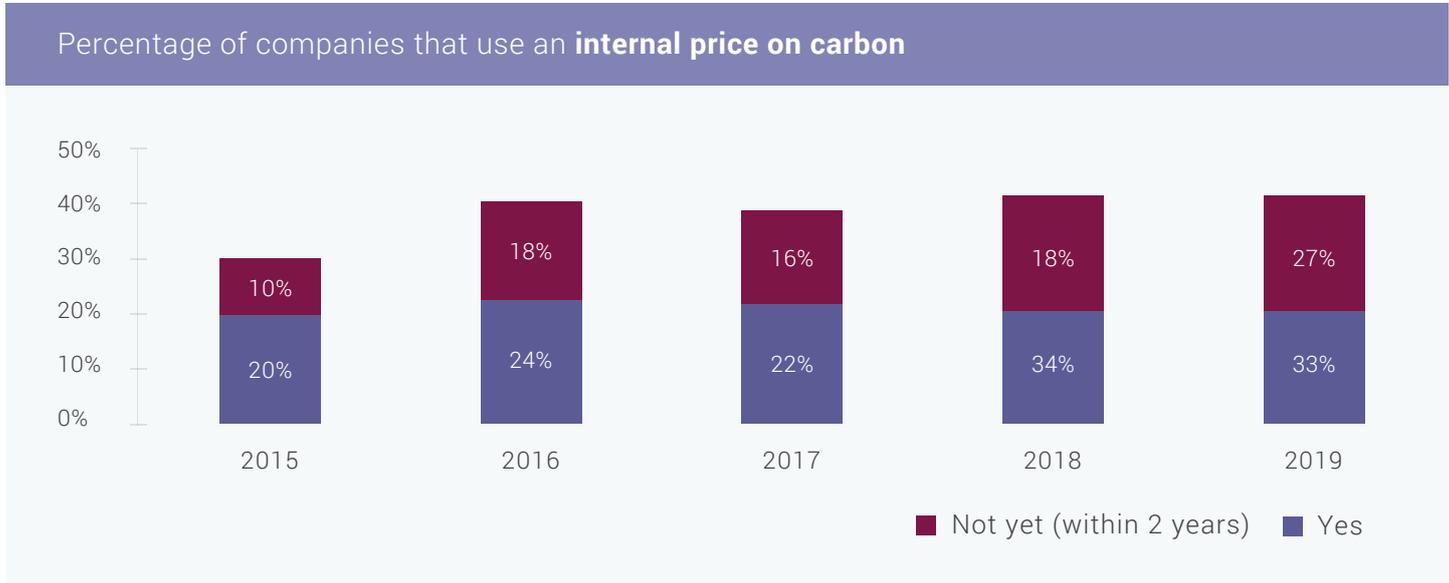
ENKA has updated its methodology to focus on low-carbon businesses and investments through constructing new buildings according to green building standards, focusing on power plant rehabilitation projects and new investments in turbine parts.

Implicit Carbon Price

Arçelik has an implicit price system on plants. Every plant has its own budget about Energy Efficiency Improvement Projects. Thanks to these 'Efficiency Improvement Projects', GHG emissions can be reduced while efficiency improvement projects are developed. At the end of each year, total investment of energy projects is divided by total CO2 reduction; hereby calculating the price to be applied.

Shadow Price

Internal carbon pricing is allowing energy management and planning teams to calculate the cost of the CO2 impacts of **Migros Ticaret's** operations. Accordingly, the company takes into account the cost of carbon when planning budgets and building business cases for gas and electricity reduction initiatives across the business.



80%

have factored risks and opportunities into financial planning process

415

total number of risks identified

▼ Risk Assessment & Opportunities

CDP questionnaire is asking 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. 90 percent of responding companies reported that **climate risks have impacted their business**. Furthermore, 80% of companies have **factored risks and opportunities** into company's financial planning process.

Most of the responding companies (90%) 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** identified by companies in Turkey amounts to US\$8 billion in total. **Total number of risks identified** as relevant is 415 (357 in 2018).

Increasingly more companies in Turkey understand that they need to safeguard their reputations through effective climate change management and communication of their climate change strategy.

Therefore, the most commonly reported **risk type** considered in the companies' climate-related risk assessments is related to reputation (94%). **Increased pricing of GHG emissions** is a newly added risk type in CDP's questionnaire and 39% of companies already identified it as a risk. This is attributable to the recent international developments on carbon markets, especially discussions over **Article 6 of Paris Agreement**¹.

Acute or increased severity of climate change (51%) and changes in precipitation (43%) 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.

Transition risks are related to society's response to climate change, such as policy and regulatory changes, the development of new technologies and business models, or changing consumer demand. **Physical risks**, on the other hand, are related to changing climate and extreme weather conditions, which can disrupt company operations and supply chains. The percentage of transition risks in the direct operations (73%) and in value chain (49%) are slightly higher than the physical risks (71% and 41% accordingly) for responding companies in Turkey.

Approximately 27% (25% globally in 2018) of the companies who identified **substantive transition risks** focused only on **potential policy and legal risks** related to climate change and did not identify climate-related market, reputation, or technology risks as substantive. In addition, most companies (88%) are identifying potential physical and transition risks that would affect their **direct operations**.

Brisa relies on energy to continue its business, prices of which are rising rapidly due to both transitional aspects as well as physical events related disruption. Energy security is one of the most strategic aspects Brisa and considered as a part of their mid to long-term business plan in terms of risks around access to sufficient and clean energy sources as well as the risk of steep increases in energy prices.

¹ Article 6 of Paris Agreement relates to carbon markets by providing an accounting framework for international cooperation and international transfer of carbon credits as well as establishing a work program for non-market approaches such as carbon taxing.

Turkey signed Paris Agreement together with other participant countries in 2016 and is expected to join Emission Trading Schemes (ETS) as a candidate company for the EU in future. However, according to **Coca Cola İçecek**, uncertainties exist concerning the scope and the requirements of ETS and national commitments on Paris Agreement. The Ministry of Energy and Natural Resources and Ministry of Environment have announced their policy on energy and carbon markets toward 2020, but the timeframe has not been shared yet. It is not very clear when ETS Directive and national commitments will come into force in Turkey. It may have an impact on Cola Cola İçecek's cold drink equipment procurement process. Turkey has committed to reduce emissions by 21% according to its Nationally Determined Commitment (NDC). During their operations, factories emit GHG due to stationary and mobile combustion, fugitive gases, use of electricity and scope 3 activities. Therefore, cap and trade schemes/carbon tax will have a potential financial impact on the Company.

Due to the global complexity of supply chains today, a disruption in one part of the world can have significant impacts elsewhere. Therefore, both investors and companies should take note of these dynamics and broaden their climate risk assessment practices if they are to remain profitable in the future.

Since 2018, companies were directly asked to report the **potential financial impact figures** of the risks they disclosed as a key data point in CDP's scoring methodology. 65 percent of companies provided at least one figure for the potential financial impact of risks and 59% for the potential financial impact of opportunities. These companies are leading the pack in this developing area of disclosure.

The top two **identified causes of financial impact** are increased operating costs (76%) that are often linked to GHG emissions pricing; and reduced revenue from decreased production capacity (82%) due to the physical impacts of climate change.

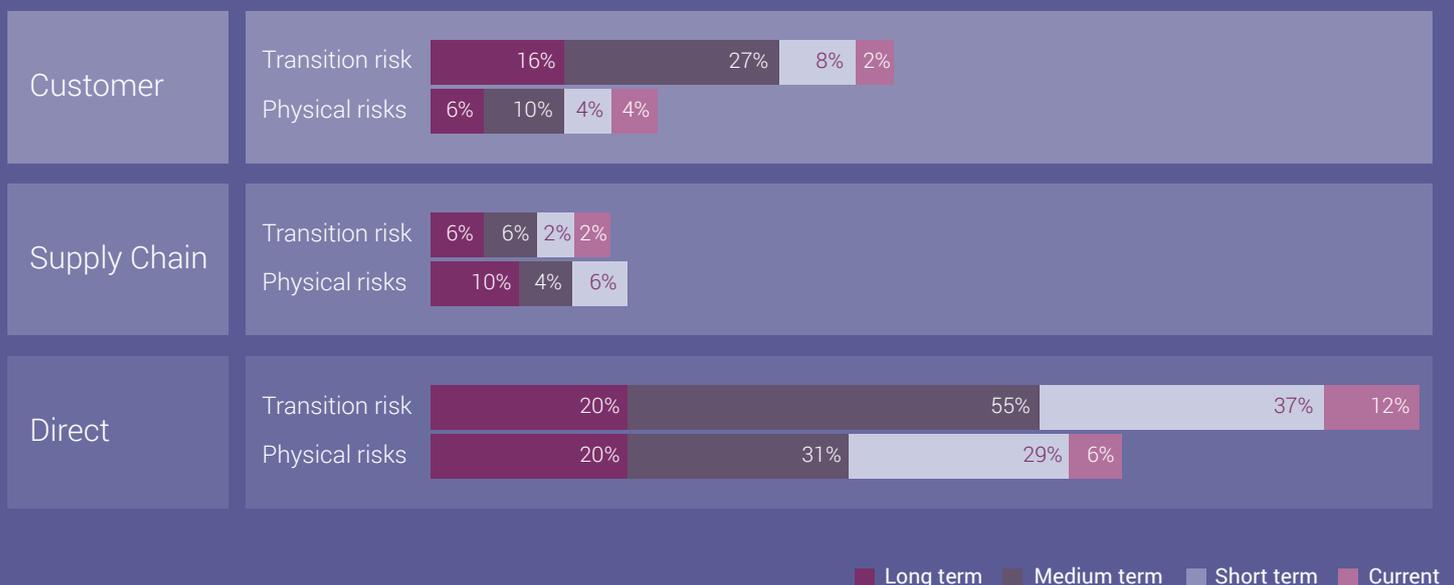
The **frequency and time horizon for risk assessment** is also key to business resilience into a business. Most (80%) Turkish companies assess the risks every six months or even more frequently and 14% of responding companies assess risks annually. Further 70% consider risks for

more than six years into the future with a long-term vision.

Responding companies recognize opportunities as well as risks posed by climate change. 78 percent of all reporting companies **identified potential opportunities** that could have a substantive or strategic impact on their business. However, this number was much higher last year (95%). Therefore, the proportion of companies that has identified risks (90%) resulting from climate change is larger than the share of companies that has identified positive opportunities. **Total number of opportunities identified** as relevant is 165 (153 in 2018).

The majority of these **opportunity types** considered in the organization's climate-related risk assessments are linked to new products and services (63%) affecting both the customer and the direct operations of the supply chain. Resource efficiencies and alternative energy sources (43%) are the next most frequently identified money savers. Besides, shift in consumer preferences (39%) and development and/or expansion of low emission goods & services (33%) are most commonly reported primary climate-related **opportunity drivers**.

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



Top 5 primary climate **risk** drivers and climate-related **opportunity** drivers

! Number of reported **risk** drivers



Policy and legal / mandates

30



Acute / increased severity

28



Chronic / Changes in precipitation

26



Policy and legal / Increased pricing of GHG emissions

24



Chronic/ rising mean temperatures

20



Number of reported **opportunity** drivers



Shift in consumer preferences

36



Development and / or expansion of low emission goods and services

21



Access to new markets

15



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

15



Use of more efficient production and distribution processes

13

165
total number of opportunities identified



Percentage of companies providing details on substantive **risks**



90%

Identified being exposed to substantive risks



71%

Provided potential financial impact figures

78%
identified both risks and opportunities which could have a substantial impact



Percentage of companies providing details on substantive **opportunities**



78%

Identified being exposed to substantive opportunities



61%

Provided potential financial impact figures

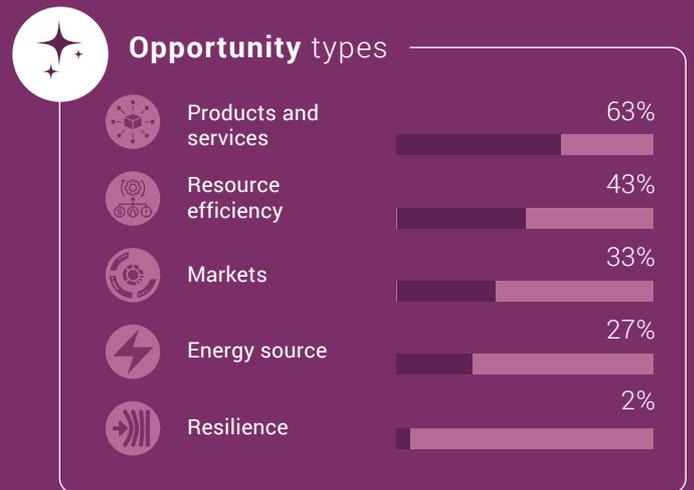
The Renewable Energy Law offers incentives for renewable energy investments through a new feed-in tariff policy for the next ten years and offering additional incentives for using locally manufactured equipment. The guarantee price for wind power plants are 7.3 USD cent/kwh and according to **Zorlu Enerji** this will be an opportunity in case of development of decentralized electricity production.

Climate change poses an opportunity for **Aselsan** to develop more low-emissions goods and services. This would likely affect the projected revenue in the future since Aselsan aims to be one of the main producers of renewable energy technologies in Turkey. Due to emerging opportunities to develop low-emission goods and services, the investment in R&D projects will continue. The total expenditure on R&D activities was 2163 million TRY, the previous year was 1675 million TRY. In 2019, ASELSAN actively followed a policy that would ensure maximum efficiency and profitability while seizing new opportunities offered by the latest technologies.

Where does the **risk** factor and **opportunity** occur in the value chain? (percentage of companies)



Most commonly reported **risk & opportunity** types by responding companies (percentage of companies)



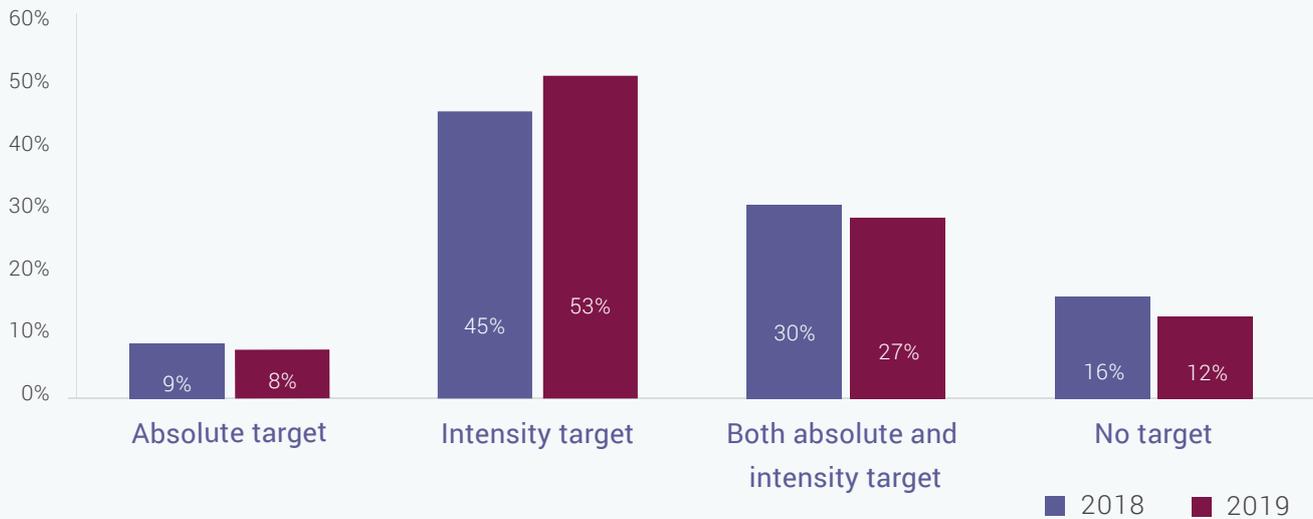
Arçelik aims to reduce total CO2 emissions of its domestic production plants from 2010 (base year) to 2020 by 60% by implementing new energy efficiency projects (emission reduction projects) and using the electricity generated from renewable energy sources. Thanks to energy efficiency studies and supply of electricity produced by renewable energy sources, Arçelik has reduced its GHG emissions by 50.27% compared to base year 2010.

▼ Targets and Performance

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 management of climate-related issues at corporate level. This information is relevant to investors' understanding of how company is addressing and monitoring progress related with the risks and opportunities disclosed.

More companies are setting **emissions reduction targets**. Within the responding companies in Turkey, 88% have some sort of target in place for reducing emissions (84% in 2018). Most commonly reported emissions reduction target type is intensity target (53%). Another 27% have both intensity and absolute targets. 27 percent of companies in Turkey report that they have achieved their current **intensity targets** by completing their targets 100% in the reporting year and 37% reported that it is underway.

Percentage of **emissions targets** active within the reporting year compare to the previous year



88%
have an emissions target that was active in the reporting year

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 and provide a pathway to companies by specifying how much and how quickly they need to reduce their GHG emissions. Targets adopted by companies to reduce GHG emissions are considered science-based if they are in line with the goals of Paris Agreement to limit global warming to well-below 2 degrees Celsius above pre-industrial levels and pursue efforts to limit warming to 1.5 degrees. Number of companies adopting Science Based Targets is very limited in Turkey. Only 10% (7% in 2018) of respondents consider that their target is a science-based target, but these targets have not been approved as science-based by the Science Based Targets Initiative (SBTi). However, 41% of responding companies are anticipating setting one in the next two years.

Company responses on **emission reduction initiatives** allow CDP data users to understand the organization’s commitment to reducing emissions beyond business-as-usual scenario. 88 percent of companies in Turkey report active emissions reduction initiatives in the reporting year. More than half of companies (53%) reported that the initiatives are related to **energy efficiency processes**. By improving their energy efficiency, companies aim to reduce their costs.

41%
anticipate setting science-based emission reduction targets in the next two years

Turkcell started its energy investment in 2016 with its subsidiary Enerjicell and established its first solar power plant in Northern Cyprus. With an installed capacity of 900 kWp, Kuzey Kıbrıs Turkcell Solar Power Plant was completed in a short period of 4.5 months with an investment of approximately 6 million TL. It is expected that 906.481 ton carbon emission will be prevented with the power plant which will produce 1,510,918 kWh of energy to the grid over medium voltage.

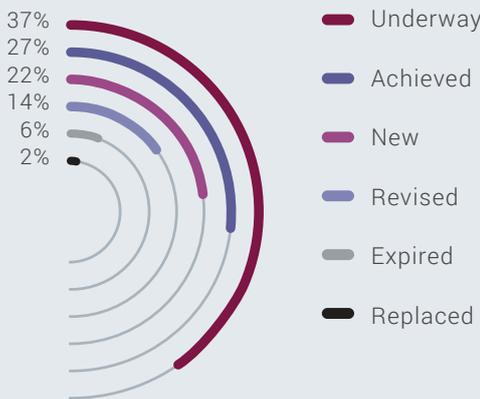
39%

provide products and/or services that is classified as low-carbon products

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. 43 percent (24% in 2018) of companies report that their products and/or services **enable third parties to avoid GHG emissions**. 39 percent (20% in 2018) 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**.

The share of renewable energy loans in total energy generation projects rose to 82%. Renewable energy projects financed by **Akbank** yielded annual electricity generation of around 13,200 GWh and prevented 5.8 million tons of CO2 emissions in 2018.

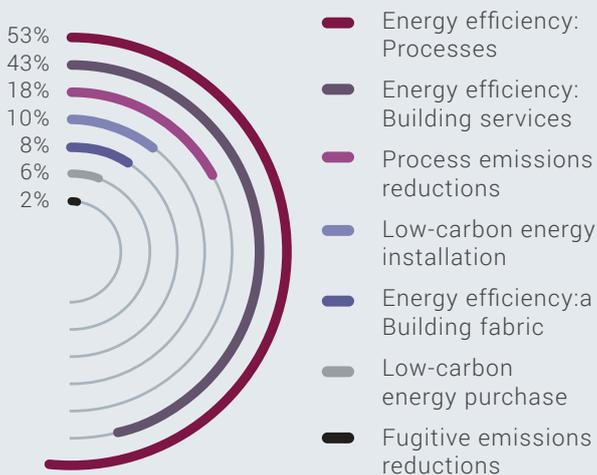
Progress made against **emission intensity targets** (percentage of companies)



Science Based Target (status of companies)



Percentage of **Initiatives implemented** in the reporting year / activity type



Percentage of **most commonly reported methods to drive investment in emissions reduction activities**



Other **most commonly reported targets** (percentage of companies)



92%

reported scope 1 & 2 emissions

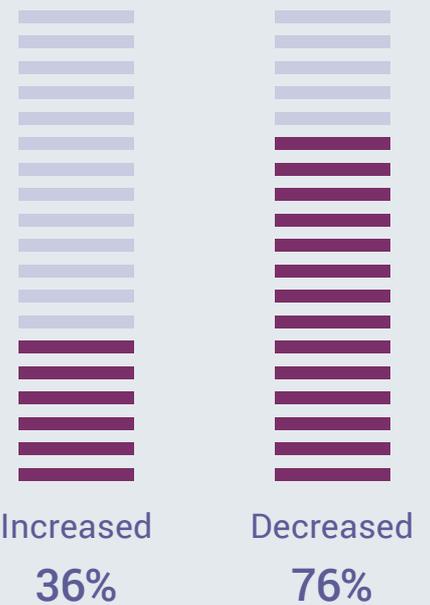
To deliver against their targets, companies are increasingly turning to clean energy, cutting emissions while simultaneously increasing their energy productivity, and reducing their energy use. Targets for replacing existing energy sources with renewable energy should form a large part of any transition strategy, but now, few companies in Turkey have set renewable energy consumption and/or production targets. 10 percent of respondents have set a **renewable energy consumption target**, while 6% have set a **renewable energy production target**.

Tracking progress: Emissions trend & verification

Based on the disclosures of the responding companies **Scope 1 & Scope 2 emissions** are concentrated heavily in two sectors: materials and industrials. In total 92% of companies from all sectors reported their Scope 1 & Scope 2 emissions. 84 percent of responding companies also reported their **Scope 3** emissions up from 82% in 2018.

Compared to the previous years, we can see an obvious progress in Turkey in **reducing emissions**. 35 percent of companies did report an absolute increase in Scope 1 and Scope 2 emissions in 2019 from 2018 and 76% (45% in 2018 compare to 2017) report an **absolute decrease** in emissions over the past year.

Gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year



Ekoten's target is to reduce natural gas consumption per kg fabric by 3%. These targets are set annually and are expired at the end of the year. Each year a new target is set taking into account the performance of the previous year. This year the electricity consumption per kg of fabric produced is 0.32.

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



82%

Scope 1 & 2 emissions have been externally assured or assurance is underway

Third-party verification and assurance ensure the quality of data and processes disclosed. A growing number of companies in Turkey recognize the importance of verifying the accuracy of their emissions data. 82 percent of responding companies in Turkey indicated that their Scope 1 and Scope 2 emissions have been externally assured or assurance is underway, an improvement over 75% in 2018. 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: 47 percent (41% in 2018).

Energy-related activities represent the most significant GHG emission sources. Accurate emissions accounting depends on a comprehensive account of energy. Almost all companies (96%) in Turkey provides energy consumption totals (excluding feedstock) in MWh including **energy consumption totals from renewable sources** (41%). Further 92% provides **fuel consumption** by fuel type consumed by the company.

Renewable energy sourcing helps companies reduce expenditures

on electricity. In the reporting year, responding companies in Turkey consumed 49 TWh electricity in their operations of which 4.5 TWh came from renewable energy sources.

Operational spend on energy is a strong indicator for a company to investigate opportunities to reduce cost while ensuring emission reductions through the adoption of low carbon energy options. In Turkey, 43% of companies have reported that 0-5% of their total operational spend was on energy (electricity, fuel, etc.).

96%

provide energy consumption totals

41%

energy consumption totals from renewable sources in MWh

Percentage of companies reporting **third party Scope 1 & 2 emissions verification**



22%
engage with more than
50 percent of suppliers
to drive emission
reductions

▼ **Engagement**

In order to truly reduce global emissions, companies must **engage with their value chain** on climate-related issues. Companies in Turkey are engaging with key stakeholders such as policymakers, suppliers, and customers. 53 percent (41% in 2018) of companies engage with their value chain on climate-related issues but only 22% engage with more than 50% of suppliers by number. Moreover, 96% (86% in 2018) 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 57%. 84 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 59% (52% in 2018) published voluntary **sustainability report**. Since TCFD recommendations call for disclosure of climate-related information in financial reports, companies should be aware that their financial reporting is expected to include environmental information at the same level of CDP responses.

57%
sitting on the board of
any trade associations
or provide funding
beyond membership

59%
published voluntary
sustainability report

COMPANY RESPONSE SUMMARY

WATER SECURITY / TURKEY 2019

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.

- 90% of the respondents have a company-wide water policy
- 65% of the respondents identified any water-related outcomes from the organization's climate-related scenario analysis
- 19% of the respondents use an internal price on water
- 58% of the respondents identified reduced environmental impacts as primary motivation behind the water-related targets

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.

- 45% of the respondents verified water consumption
- 42% of the respondents verified water discharge
- 19% of the respondents verified water recycle/reuse
- 55% of the 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.

- 87% of the respondents identified water-related opportunities with the potential to have a substantive financial or strategic impact on the business

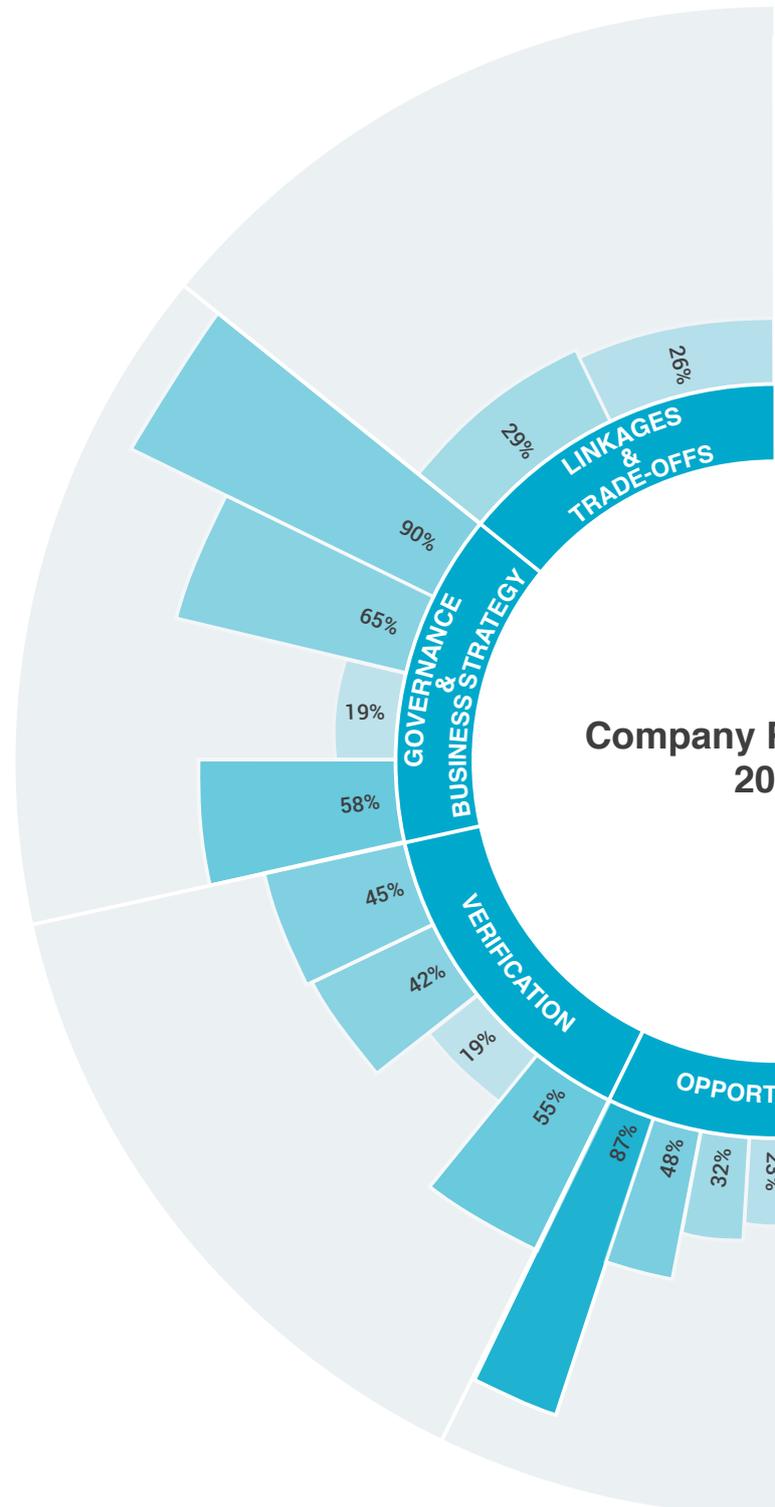
Primary water-related opportunities:

- 48% Cost savings
- 32% Improved water efficiency in operations
- 23% Increased brand value
- 16% Sales of new products/services
- 16% Increased sales of existing products/services
- 13% Stronger competitive advantage

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 more holistic management.

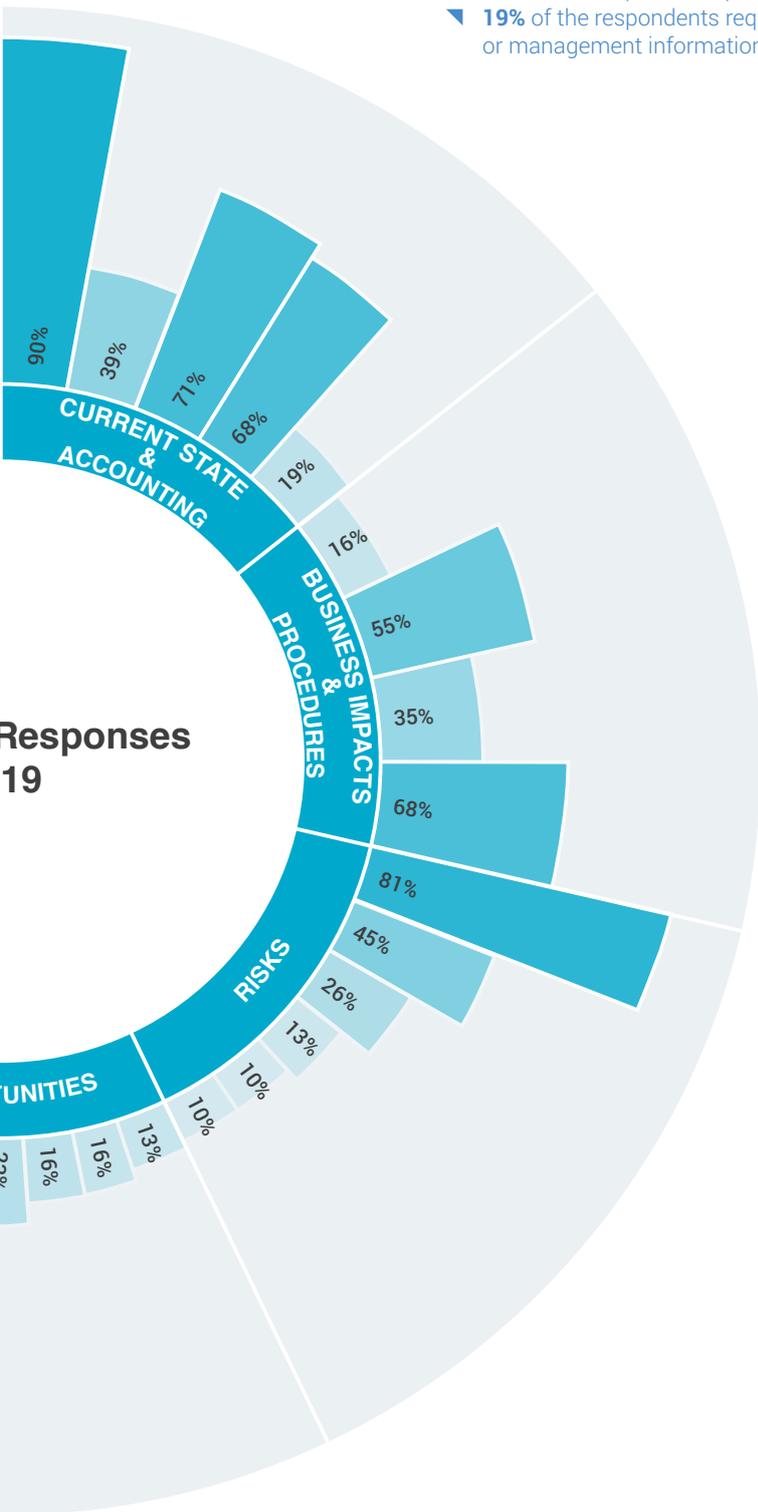
- 26% decreased energy use is the most common reported type of linkage
- 29% increased energy use is the most common reported type of trade-off



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. 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.

- ▶ **90%** regularly measured and monitored 100% of the water aspects across all operations
- ▶ **39%** more than 50% of total withdrawals sourced from water-stressed areas
- ▶ **71%** of total water withdrawal sourced by third party sources
- ▶ **68%** of the respondents provide water recycle or reuse percentages
- ▶ **19%** of the respondents request from more than 50% of suppliers to report on their water use, risks and/or management information



Responses
19

BUSINESS IMPACTS & PROCEDURES

This module asks about water-related impacts on organization and response 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 risk and what those risks are.

- ▶ **16%** flooding is the most reported impact driver of the water-related detrimental impacts experienced by the company
- ▶ **55%** of the respondents assessed water risks as part of the other company-wide risk assessment systems
- ▶ **35%** of company procedures for identifying and assessing water-related risks covered both direct operations and supply chain
- ▶ **68%** 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.

- ▶ **81%** 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:

- ▶ **45%** Increased operating costs
- ▶ **26%** Reduction or disruption in production capacity
- ▶ **13%** Brand damage
- ▶ **10%** Closure of operations
- ▶ **10%** Increased production costs

COMPANY RESPONSE OVERVIEW

WATER SECURITY / TURKEY 2019

32
disclosing companies
in total

Although the regulations at the national level are not yet pressurizing or encouraging companies in Turkey to address water risks, the new climate regime requires companies to be sufficiently transparent on environmental and water-related risks and opportunities relevant for their businesses.

CDP's water security questionnaire motivates companies to disclose and reduce their environmental impacts by using the power of investors and customers. The data CDP collects help influential decision makers to reduce risk, capitalize on opportunities, and drive action towards a more sustainable world. CDP also works with a range of organizations; such as the CEO Water Mandate, the World Resources Institute (WRI), WWF, World Business Council for Sustainable Development (WBCSD), the Global Reporting Initiative (GRI), the Alliance for Water Stewardship, Ceres, Sustainability Accounting Standards Board (SASB) and similar organizations in order to support the development of standards that are both valuable for companies and provide investors, policy makers and other data-users with meaningful information. Standardization is needed to facilitate transparency and reporting as well as to support consistency and comparability for data users.

Through water questionnaire, CDP asks companies to systematically report data relating to their water use, water-related risks and opportunities and their governance of water. Investors use CDP water data to engage with portfolio companies, inform investment decisions, and catalyze change. In addition, more than 125 purchasing organizations use CDP water data to drive greater insight, accountability, and action throughout their global supply chains. Globally, **8443** companies disclosed to CDP water program in 2019.

On behalf of investor signatories, in the fifth 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 based on economic and environmental indicators (largest listed companies in high water impact industries). In total, **32 companies responded to CDP's water program in Turkey** up from 27 companies (19% increase) in 2018. Out of 32 respondents, 14 were self-selected (SSCs) and 17 were included in the Turkey sample that received an official invitation. Therefore, the response rate of the official sample is 34% (28% in 2018).

This chapter presents summary findings from our analyses of 31 (one of the companies is Self-Selected Company) responding company disclosures in response to the CDP Water Information Request.

Water Security A List

CDP raised the bar for corporate leadership on water security in recognition of the changes needed. To make the Water Security A List, companies must now show that they regularly monitor and manage water aspects relevant to their activities through the whole value chain, that they have regular and comprehensive water risk assessment procedures that are grounded in the river basin and a solid understanding of how water issues could impact their financial performance. At the same time, they should show that they have implemented a genuine strategic response to these risks. **ETİ SODA A.Ş.** was able to meet these higher standards together with 72 global companies.

71%

water quality & quantity is important for the success of the business

Water is not added as a raw material into **Arçelik**'s products but dishwashers and washing machines use water in consumer product usage phase. Because of these products work with freshwater, Arçelik engage and raise customers' awareness by advertisements, documentaries, and publications related to water efficiency and by producing best water efficient products. To decrease customers' water consumption and risks, R&D projects are being developed. As an example, Arçelik has developed a new dishwasher, which has lower water consumption with seven liter per usage while having optimum performance and efficiency.

Measuring and Monitoring

Robust water accounting data is necessary to inform business planning and forecasting as well as risk identification and response. Measuring and monitoring water usage, discharge and consumption are vital first steps in enabling companies to understand the risks they face, and the opportunities available to improve water security and stewardship throughout their operations and supply chains.

Companies should regularly measure all water aspects: withdrawals, discharges, quality, consumption, and employee access to WASH (Water, Sanitation, and Hygiene).

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.

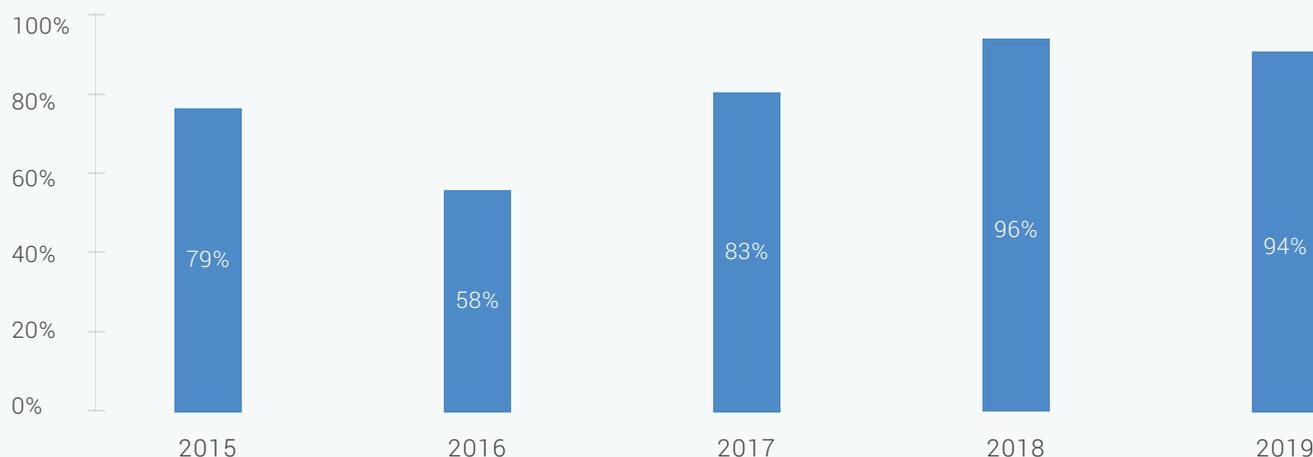
CDP asks companies to **rate the importance (current and future) of water quality** and water quantity to the success of their business. The companies

Water is vital for **Akenerji**'s operations. Especially at Hydroelectric Power Plants (HEPP), electricity can be generated by means of water. The potential energy of water is transformed to mechanical energy to generate electricity. Therefore, availability of water (water quantity) is vital for Akenerji's operations. Besides, Akenerji have a natural gas combined cycle power plant (NGCCPP) and significant volume of water is necessary for cooling purposes.

disclosing from Turkey claim that having sufficient good quality freshwater for their own use is either important (71%) or vital (58%) for their business.

A significant portion of responding companies (94%) reporting via CDP now **measure and monitor more than 50% of all water aspects** across all operations (sites/facilities/operations). Rather 90% are regularly measure and monitor all (100%) water aspects. However, only 45% of responding companies in Turkey require their key suppliers to report water use, risk, and management.

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



71%

water withdrawal is sourced from third party sources

In **Ford Otomotiv**, third party sources withdrawal during the reporting period has decreased by 17.33% compared to previous year. The reason for this decrease is water consumption related projects at its Sancaktepe facility.

68%

provide water recycle or reuse percentages

In **Tekfen**, the total amount of water recycled/reused has increased by 18.77% (1,576 megaliters) from 2017 to 2018, reaching 24% of total water consumed. During energy production from waste heat recovery, Tekfen first demineralize the water. Some of the demineralized water is condensed and re-used. These recycled and reused water quantities are very high in company's Samsun and Mersin plants. Water is reused for coal dust suppression in Ceyhan Plant and Tekfen Construction reuse the hydro test water for concrete washing.

As per **accounting of water use**, 94% (92% in 2018) of responding companies gave account of their water withdrawals by source via CDP. A further 94% also provided total water discharge data by destination. While 48% (27% in 2018) of responding companies have measured that, their **water consumption** is lower than the previous year, 26% (27% in 2018) of the companies report an increase. In terms of **water withdrawals**, 52% (38% in 2018) of responding companies report a decrease, while 26% (35% in 2018) measured an increase compared to previous year. The most common explanation that companies provide for increased withdrawals is an increase in production. 55 percent (46% in 2018) of companies reported that total **water discharge** by destination is lower compare to the previous year.

Most of the water withdrawal is sourced from **third party sources** (71%) and most of the water is discharged to **third party destinations** (81%) which shows water crosses the company boundary, at either the corporate level or facility level.

39 percent of responding companies reported that more than 50% of total withdrawals sourced from **water stressed areas**. 10 percent of companies reported that total water withdrawals sourced from water stressed areas are higher compare to the previous reporting year.

68 percent (58% in 2018) of responding companies provide **water recycle or reuse percentages** and 19% of companies reported that more than 50% of total water use is recycled and reused. 13 percent (4% in 2018) reported that the total volume of recycled and reused water use is lower and 26% (15% in 2018) reported that it is higher compare to the previous year.

48%

water consumption is lower than the previous year

39%

more than 50% of total withdrawals sourced from water stressed areas

2,646 megaliters

volume of total water withdrawal by source

² A Representative Concentration Pathway (RCP) is a greenhouse gas concentration (not emissions) trajectory adopted by the IPCC. Four pathways were used for climate modeling and research for the IPCC fifth Assessment Report (AR5) in 2014. The pathways describe different climate futures, all of which are considered possible depending on the volume of greenhouse gases (GHG) emitted in the years to come.

Water data comparison with previous reporting year



55%

Total water discharge by destination is lower compare to the previous year



52%

Total water withdrawal by source is lower compare to the previous year



26%

Total volume of recycled and reused water use is higher compare to the previous year

The most frequently cited **water withdrawal sources and water discharge destinations**



Total water withdrawal by source

| | 2018 | 2019 |
|---|------|------|
| Third party sources | 73% | 71% |
| Groundwater – renewable | 62% | 52% |
| Fresh surface water, including rain water, water from wetlands, rivers, and lakes | 35% | 42% |



Total water discharge data by destination

| | 2018 | 2019 |
|---------------------------------|------|------|
| Third party destinations | 88% | 81% |
| Fresh surface water | 46% | 39% |
| Brackish surface water/seawater | 23% | 19% |

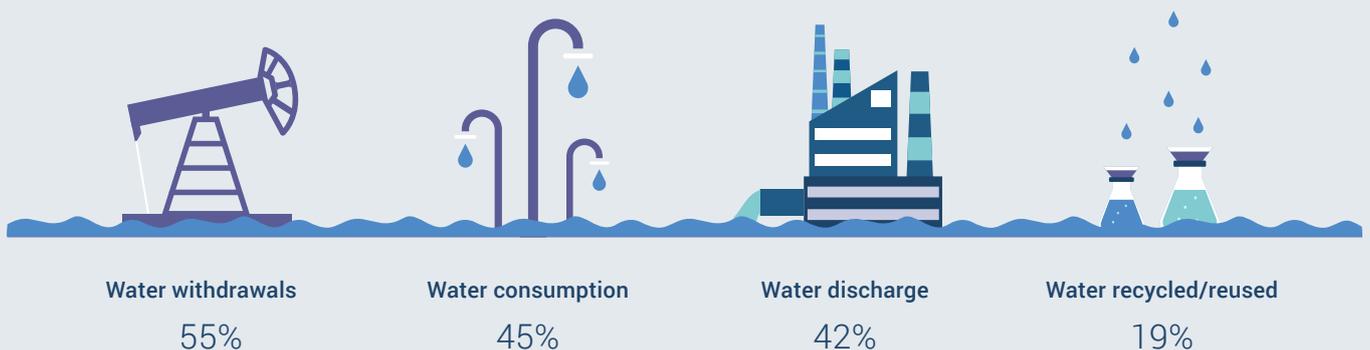
87% engage with the value chain on water-related issues

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. 87 percent (69% in 2018) of responding companies engage with the value chain on water-related issues. 45 percent (38% in 2018) of respondents also ask their **suppliers to report on their water use, risks and/or management** information and a further 19% require more than 50% all of those aspects to be reported by their suppliers.

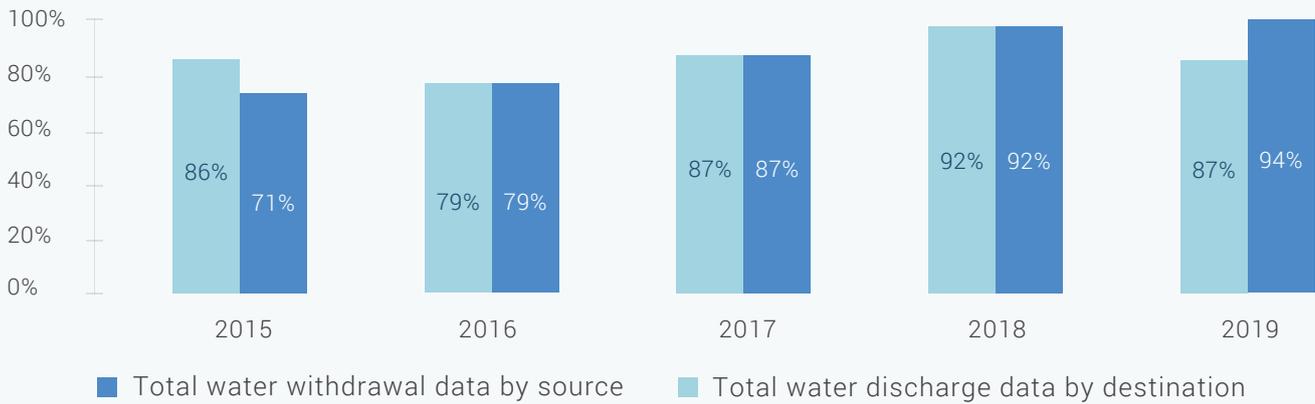
Water withdrawals are the most **externally verified** water accounting data (55%). 39 percent of respondents verified other water information besides the company's CDP disclosure on the following items.

Migros attaches a great importance to supplier selection and monitors suppliers' practices within the framework of its responsible sourcing approach and assists them to improve their performance, including water use, risks, and management. In 2018, 85% of its suppliers, which make up company's 80% of total revenue, was selected as a target sample according to 80/20 rule known as the Pareto Analysis. That significant amount of suppliers have a massive impact on the company.

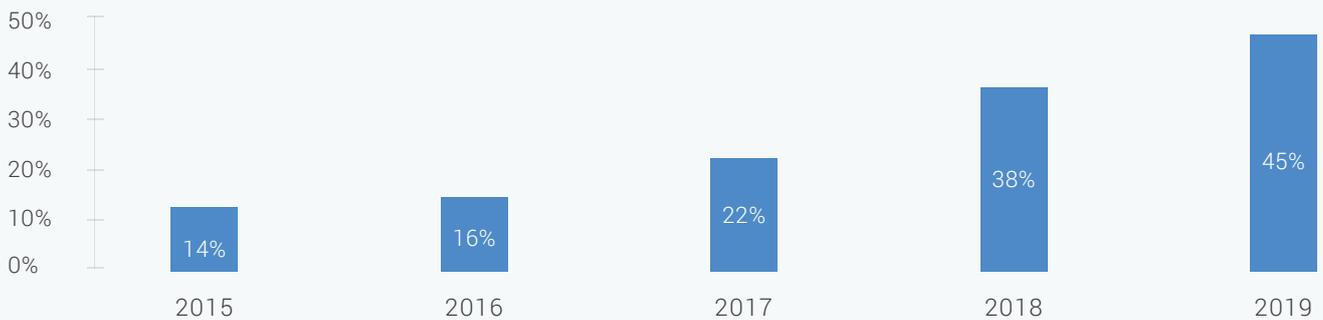
Percentages of **externally verified water accounting data**



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



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



32%
experienced
detrimental water-
related impacts

Kordsa's Izmit facility has experienced flooding due to mismanagement of the nearby Yuvacik Dam. Following a heavy rain, the dam storage was over capacitated and in order to release the access water and maintain services, the dam gates were opened, resulting in additional water for the basin where company's facility is located. Part of their production process was affected, and it caused reduced output.

Business Impact & Procedures

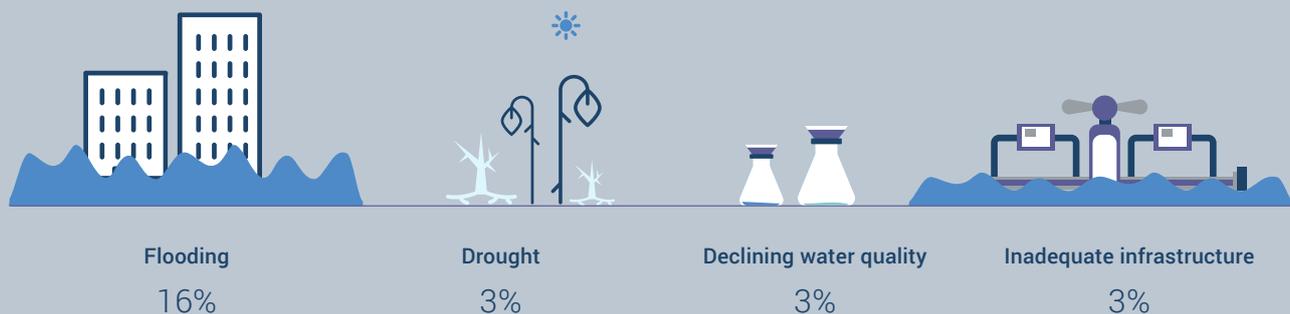
There are financial risks that companies face from water issues. 32 percent of companies in Turkey suffering from some sort of water-related issue (**experienced detrimental impacts**) over the reporting period—mostly related to flooding or droughts.

A comprehensive risk assessment is essential for companies to develop a clear understanding of physical, regulatory, and reputational exposures as well as opportunities available. 94 percent of responding companies state that **water risks are assessed**. However, water-exposed companies should conduct risk assessments that

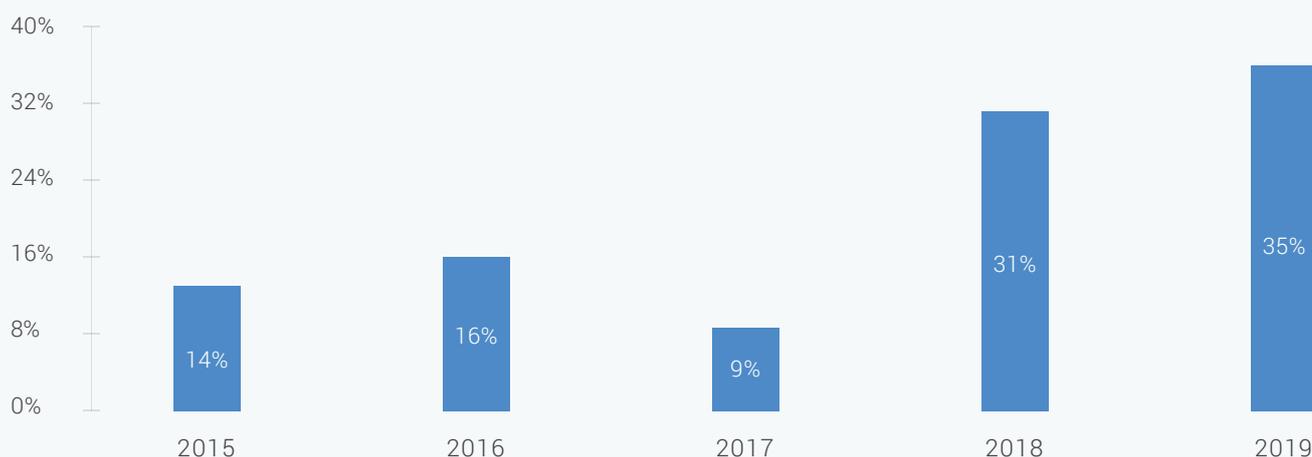
68%
assessed water-related
risks for more than 10
years

ENKA undertakes a comprehensive company-wide water-related risk assessment as well as developing separate risk assessments for each of its projects involving its suppliers. Before the construction of projects, Environmental and Social Impact Assessment Reports are prepared by external consultants to identify potential impacts the project may have on the environment as well as defining water-related risks the project may pose.

The most frequently cited **impact drivers**



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



In **Zorlu Enerji**, while assessing water-related risks, they prioritize water availability and quality at each power plant under our operational control. As water is vital for their operations mainly in thermal power plants, water-related risks in terms of implications in cases of not having water at sufficient amounts are assessed covering the whole lifetime of each plant. While conducting water risks assessment they use WRI Aqueduct tool and internal company knowledge.

are company-wide and comprehensive, including their direct operations and their supply chains. 35% of disclosing companies meet this higher standard. 68 percent of companies assessed water related risks for more than 10 years - up from 35% in 2018.

Water is a local issue and each river basin faces distinct challenges as a function of the different water users operating there. Assessment at the basin level poses challenges for companies, given that it requires an understanding of the activities and needs of local communities and other local water users. 65 percent of companies in Turkey conduct **risk assessment, which**

took place at the river basin level – up from 58% in 2018- and 90% (85% in 2018) of responding companies factor **local communities** into their water risk assessments.



Percentage of **contextual issues** which are the most frequently considered ones in the organization's water-related risk assessments

| | 2018 | 2019 |
|---|------|------|
| Water-related regulatory frameworks | 92% | 94% |
| Water availability at a basin | 88% | 90% |
| Water quality at a basin | 88% | 87% |
| Access to fully-functioning, safely managed WASH services for all employees | 92% | 84% |
| Status of ecosystems and habitats | 73% | 81% |
| Stakeholder conflicts concerning water resources at a basin | 62% | 74% |
| Implications of water on company's key commodities/raw materials | 54% | 65% |

Stakeholders which are always considered in the organization's **water-related risk assessments**



Şekerbank assesses the water risks from three different aspects: 1- Risks to physical operations 2- Risks transferred to them through their customer portfolio 3- Risks of their suppliers. They try to follow and manage these risks through risk management tools developed in-house.

▼ Risks Assessment & Opportunities

A company considering its water use alongside the physical, regulatory, social, environmental and temporal context within which it and its suppliers operate, has a far greater chance of understanding and enhancing its resilience. Companies are asked to report **substantive water-related risks** and to share any **water-related opportunities** being realized that could substantively benefit their business.

Companies should undertake water risk assessment that account for the regional context in both direct operations and supply chains. 48 percent (46% in 2018) of responding companies identified **inherent water-related risks** with the potential to have a substantive financial or strategic impact on the business both in direct operations and in the rest of our value chain. By improving their understanding of

48% identified water-related risks both in direct operations and the rest of the value chain

Water is essential for **Brisa's** production process. In order to prevent water-related disruption in their production, a) they continuously monitor the availability and the quality of water withdrawal in all production facilities; b) they try to prevent supply chain related disruption via generating a supplier pool from which we are able to choose multiple suppliers providing the same raw material.

The most frequently reported **primary risks and opportunities**



Primary **risk** drivers in the direct operations

| | 2018 | 2019 |
|--------------------------|------|------|
| Flooding | 27% | 29% |
| Increased water scarcity | 27% | 26% |
| Increased water stress | 23% | 26% |
| Drought | 23% | 23% |
| Declining water quality | 19% | 19% |
| Higher water prices | 19% | 16% |



Primary water-related **opportunities**

| | 2018 | 2019 |
|---|------|------|
| Cost savings | 58% | 48% |
| Improved water efficiency in operations | 23% | 32% |
| Increased brand value | 27% | 23% |
| Sales of new products/services | 19% | 16% |
| Increased sales of existing products/services | 15% | 16% |
| Stronger competitive advantage | 15% | 13% |

77%
identified physical risks in the direct operations

the way in which water is managed around them, companies are better prepared to respond proactively to challenges.

58 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 48%.

Physical risks are the most reported types of risks in the direct operations (77%) and in the value chain (42%). Increased operating costs are **the most reported potential impact** (45%) of identified risks in the direct operations; in the value chain, the most reported risk drivers are drought (13%) and flooding (13%).

48 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 52% anticipate that it is going to realize over a period more than six years.

According to **Coca Cola İçecek**, because of climate change, change in extreme weather conditions such as heavy rainfall in a short amount of time is starting to be observed. Additionally, due to extreme urbanization, water penetration beneath the soil becomes hard and less, consequently water surface run off increases. Coming together with inadequate drainage / sewage systems, the risk of flood increases, which could adversely affect the water quality by contamination of water resources and/or damage the wells.

48%
anticipate risks to materialize within 1 - 6 years in direct operations

The most frequently reported **potential impacts** of identified risks in the direct operations and in the value chain



Direct operations

| | 2018 | 2019 |
|--|------|------|
| Increased operating costs | 54% | 45% |
| Reduction or disruption in production capacity | 19% | 26% |
| Brand damage | 15% | 13% |



Value chain

| | 2018 | 2019 |
|--|------|------|
| Supply chain disruption | 12% | 13% |
| Reduction or disruption in production capacity | 12% | 10% |
| Increased operating costs | 12% | 6% |

87%

identified water-related opportunities and some/all are being realized

Minimum potential financial impact of the opportunity's calculation is based on the current loan disbursement for smart irrigation systems in **Yapı Kredi's** portfolio. Yapı Kredi cooperates with one of the biggest irrigation system companies in Turkey and foresees a maximum potential financial impact of the opportunity to be 5 million TRY for modern irrigation systems in the near future.

In most parts of the world, water is cheap, with users often paying below-cost rates for their water supply. Only 16% of responding companies in Turkey cite **higher water prices as a potential risk**, either in their direct operations or along their supply chain.

There are also positive opportunities identified from taking action on water issues. 87 percent of responding companies identified **water-related opportunities** with the potential to have a substantive financial or strategic impact on the business and stated that some/all are being realized. Efficiency (71%) and markets (45%) are the most reported types of opportunities currently being realized.

▼ Governance

The strategic decisions taken by the CEO and the Board can truly transform a company's impact on water resources. 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. Although companies report high levels of risk exposure and **board-level oversight**, they have not yet tied water issues to performance. 97 percent of companies report that they have board-level oversight of water-related issues within the organization. In more than half of the responding companies (52%), CEO is the one with responsibility for water-related issues but only 58% have **incentives in place** for C-Suite executives on water-related issues.

We found that 81% (77% globally in 2018) report **exposure to substantive water risks** and 87% (81% in 2018) of responding companies have **company-wide water policy** in Turkey. A further 90% engage in activities that could either directly or indirectly influence public policy on water.

52%

identified CEO with responsibility for water-related issues on the board

97%

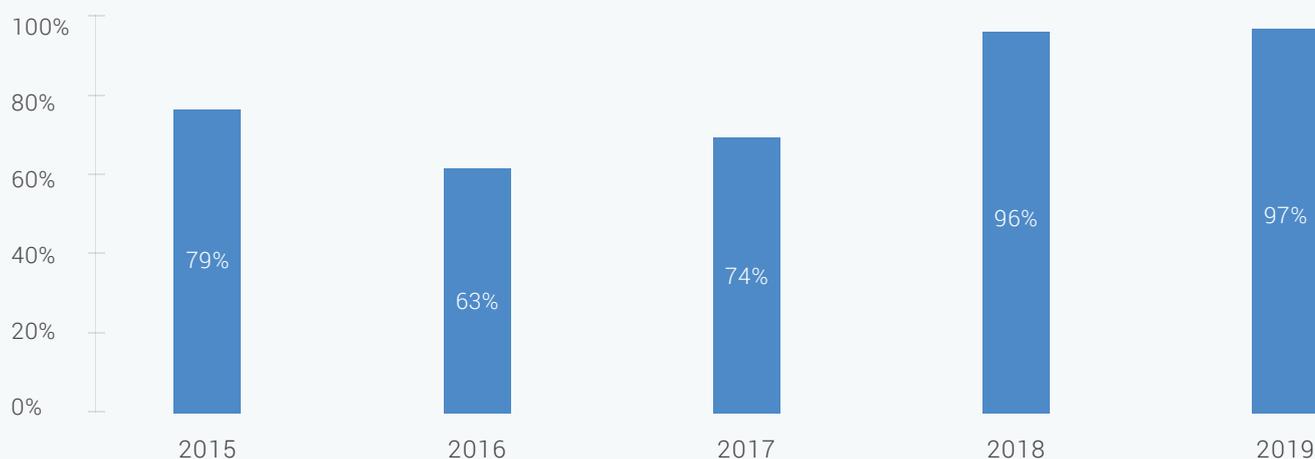
have board-level oversight of water-related issues

87%

have a company-wide water policy

Halk Bank's water policies and procedures are set out in the Bank's environmental policy. Reports and works carried out throughout the year are discussed at sustainability committee meetings and presented to the board of directors once a year.

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



74%

use climate-related scenario analysis

ENKA uses International Energy Agency (IEA) SD Scenario and Risk assessment tools (WRI and Aqueduct) for scenario/risk analysis. ENKA has started to calculate water footprint starting from 2016 and working on setting a target for water consumption for future years. ENKA also defined sustainability strategy including protecting environment and water resources; set targets to reduce water consumption in owned/leased buildings.

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.

65 percent of responding companies identified water-related outcomes from the organization's climate-related scenario analysis. 74 percent of respondents use **climate-related scenario analysis** to inform its business strategy.

Only 19% (12% in 2018) of companies use an **internal price on water**, which is lower than the companies that use an internal carbon price in Turkey (27%).

Looking at the longer term 90% (88% in 2018) of respondents in Turkey are integrating water-related issues into organization's **long-term strategic business plan**. A further 48% (38% in 2018) integrated those issues into strategic business plan for more than 10 years.

94%

provided quantitative metric for water targets

Vestel Beyaz Eşya aims to reduce water consumed in the manufacture of the products by 15% in 2022. The company also set the goal of reducing water usage amount by 15% per water sourced from municipal supply compared to 2019 until 2030 to manage and reduce water consumption in domestic and overseas sites.

Percentage of companies integrated water-related issues into organization's strategic business plan

90% Strategy for achieving long-term objectives



87% Long-term business objectives



77% Financial planning



90%

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

Migros aims to reduce water consumption by monitoring water consumption on a monthly basis and by using efficient equipment. Special screens were developed for entering the water consumption data from every store on the intranet of the company. The company started to monitor water consumption per sales square meters in order to track consumption. Compared to our 2017 base year, company aimed to reduce daily water consumption per square meter sales area by 1% in 2018, 5% in 2023 in the medium term, and 10% until 2027 in the long term.

Companies must set and achieve ambitious targets to reduce impacts on water availability and quality. There is an increased 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 of the companies (90%, 85% in 2018) reporting this year have set **company-wide targets and goals** in place to better manage water risks. 71 percent of responding companies achieved more than 50% of their **water targets**. This is a substantial increase from the 42% reporting the same last year.

19%

use an internal price on water

Water withdrawals are the most common category of targets that are monitored at the corporate level (39%). 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 (19%) and providing access to safely managed Water, Sanitation and Hygiene (WASH) in workplace (23%).

Motivations behind the water-related **targets and goals**



Targets

| | 2018 | 2019 |
|---|------|------|
| Reduced environmental impacts | 42% | 58% |
| Cost savings | 23% | 19% |
| Climate change adaptation and mitigation strategies | 12% | 16% |
| Risk mitigation | 12% | 13% |
| Water stewardship | 12% | 13% |



Goals

| | 2018 | 2019 |
|---------------------------------|------|------|
| Water stewardship | 31% | 32% |
| Reduced environmental impacts | 23% | 29% |
| Shared value | 23% | 26% |
| Brand value protection | 15% | 13% |
| Corporate social responsibility | 15% | 13% |

84% identified linkages or trade-offs between water and other environmental issues

The percentage of respondents that provide **quantitative metric** for water targets is 94% (73% in 2018). A further 74% provide **description of water goals**.

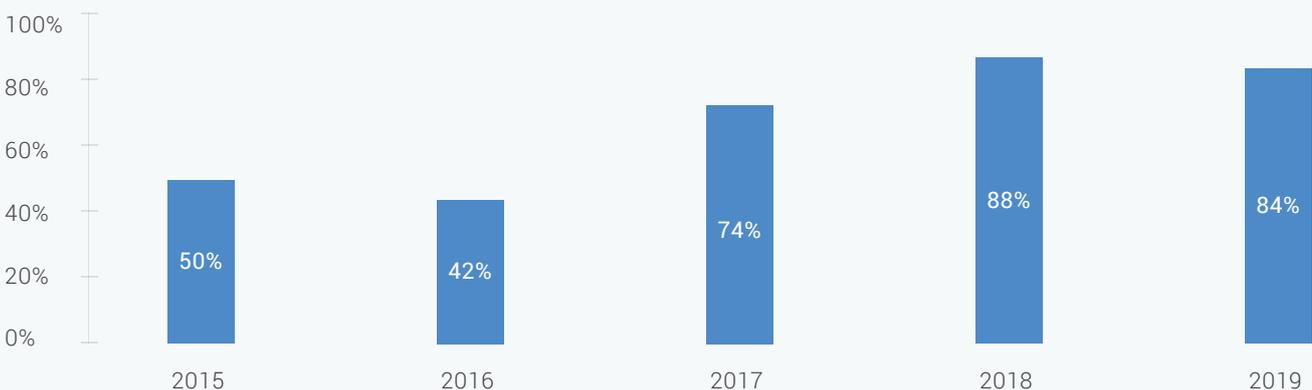
Increasingly, companies will be required to manage water withdrawals, consumption, and discharges simultaneously with management of other environmental issues, e.g. energy consumption and greenhouse gas emissions. Linkage is a relationship where management of water has a positive impact on another environmental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

84 percent of responding companies identified **linkages or trade-offs** between water and other environmental issues in the direct operations and/or other parts of

the value chain. Increased energy use is the most common reported type of trade-off (29%) and as expected, decreased energy use is the most common reported type of linkage (26%).

It is difficult for **Brisa** to control the quality of groundwater or third party-sourced utility water, therefore they try to act pro-actively and invest in new technologies to minimize their dependency on external sources. A Wastewater Recovery Plant will become operational in 2020. This investment will enable them to recycle their process water and use it for cooling, which will reduce their water withdrawal.

Percentage of companies identified **linkages or trade-offs** between water and other environmental issues

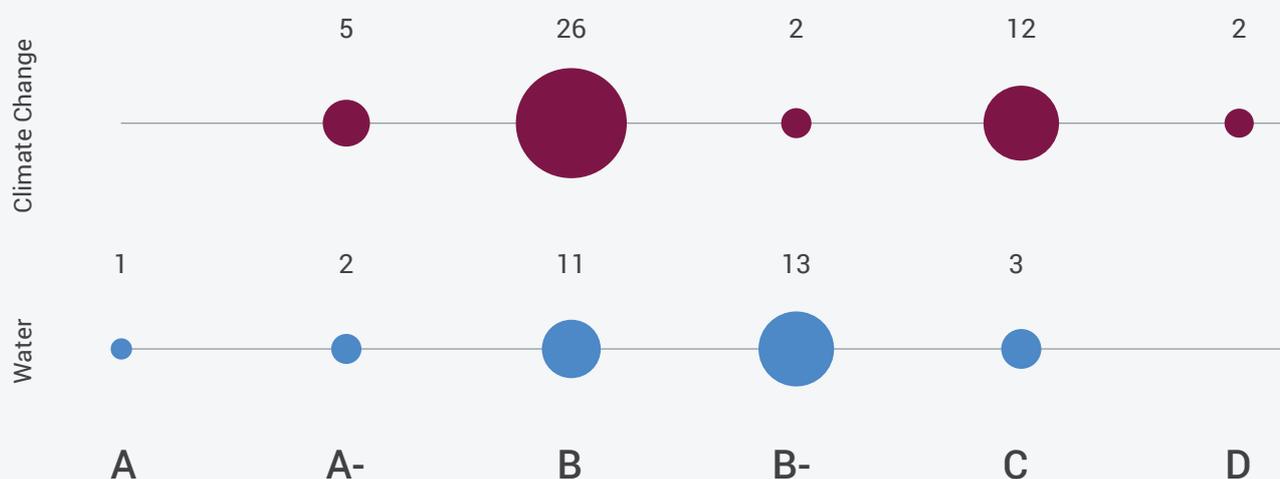


CDP TURKEY LEADERS 2019

TURKEY 2019

| CDP Global Water A List | ACS Industry | Score |
|--|----------------|-------|
| ETİ SODA A.Ş. | Materials | A |
| CDP Turkey Climate Change Leaders | | |
| ARÇELİK A.Ş. | Manufacturing | A- |
| ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş. | Manufacturing | A- |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | Manufacturing | A- |
| MİGROS TİCARET A.Ş. | Retail | A- |
| TEKFEN HOLDİNG A.Ş. | Infrastructure | A- |
| CDP Turkey Water Leaders | | |
| TEKFEN HOLDİNG A.Ş. | Infrastructure | A- |
| YAPI VE KREDİ BANKASI A.Ş. | Services | A- |
| CDP Supplier Engagement Rating Leader | | |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | Manufacturing | A |

Score distribution of Turkey (Number of companies)



CDP SCORING METHODOLOGY

CDP Scoring Partners



CDP scoring lays down milestones marking the progress of a company's sustainable journey. It provides a roadmap to companies to compare themselves to the best in class. The scoring methodology has evolved over time to influence company behaviour 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.

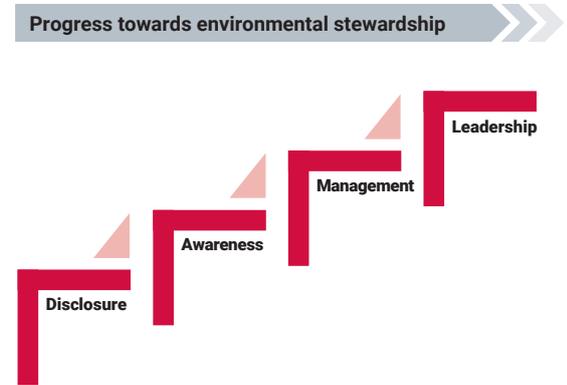
CDP's 2019 questionnaires are focused on the high-impact sample companies in each of the three themes – Climate Change, Water, and Forests. To operationalise this approach, CDP developed a new Activity Classification System (CDP-ACS),¹ a three-tiered system starting from the lower rung of Activity, going 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.

While the bulk of the scoring logic applies to all sectors and questionnaires alike, each of the questionnaires comes with a somewhat tailored 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

Further guidance on general questions and sector questions can be downloaded from: www.cdp.net/guidance/guidance-for-companies

Illustration of scoring levels

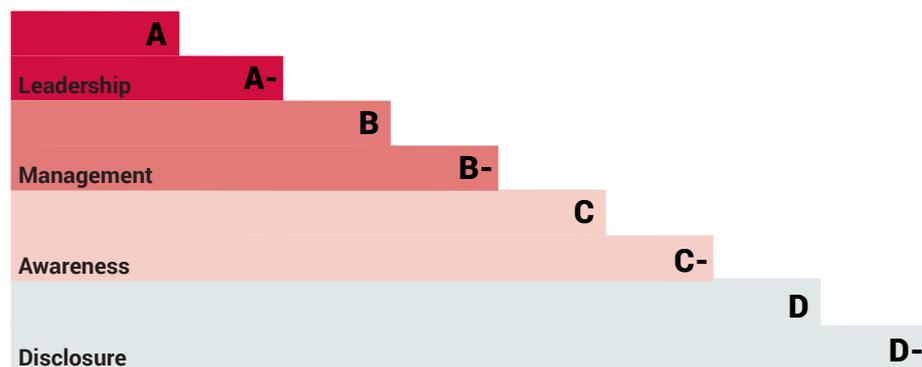


scoring standards are aligned between samples and scoring partners.

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.

| Climate Change | Water | Forests |
|----------------|--------|---------|
| >64% | >54% | >60% |
| 0-64% | 0-54% | 1-59% |
| 45-75% | 45-75% | 45-65% |
| <45% | <45% | <45% |
| 45-79% | 45-79% | 45-79% |
| <45% | <45% | <45% |
| 45-79% | 45-79% | 45-79% |
| 45% | <45% | <45% |



F = Failure to provide sufficient information to CDP to be evaluated for this purpose.²

Scoring categories and weightings

Scoring categories in 2019 are sub-groups of the 2019 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: 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: Category weighting (%) / 100 * 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 Börse's website. CDP operates a strict conflict of interest policy with regards to scoring and this can be viewed at

<https://bit.ly/2Sx3hLd>

| 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% |

¹ For further information, visit <https://bit.ly/2FlpQdY>.

² Not all companies requested to respond to CDP do so. Companies who are requested to disclose their data and fail to do so, or fail to provide sufficient information to CDP to be evaluated will receive an F. An F does not indicate a failure in environmental stewardship.

³ The table is an example of the General Scoring methodology category weightings. Sector-wise scoring and the respective categories and weightings can be found here - <https://bit.ly/2L70rFT>.

RESPONSE STATUS

CLIMATE CHANGE / TURKEY 2019

2019 SCORE

2019 RESPONSE STATUS

2018 RESPONSE STATUS

2019 PERMISSION STATUS

2019 DISCLOSED EMISSION

| COMPANY - REQUESTED | PRIMARY QUESTIONNAIRE | ACS INDUSTRY | | | | | |
|---|--------------------------|-------------------------------|----|----|----|------------|-------|
| CDP TURKEY CLIMATE CHANGE SAMPLE (BIST-100) | | | | | | | |
| AFYON ÇİMENTO SANAYİ T.A.Ş. | Cement | Materials | - | SA | AQ | | |
| AKBANK T.A.Ş. | General | Services | C | AQ | AQ | Public | 1,2,3 |
| AKENERJİ ELEKTRİK ÜRETİM A.Ş. | Electric utilities | Power generation | B | AQ | AQ | Public | 1,2,3 |
| AKSA AKRİLİK KİMYA SANAYİİ A.Ş. | Chemicals | Materials | B- | AQ | AQ | Non-public | 1,2,3 |
| AKSA ENERJİ ÜRETİM A.Ş. | Electric utilities | Power generation | F | NR | DP | | |
| ALARKO HOLDİNG A.Ş. | General | Infrastructure | F | NR | DP | | |
| ALBARAKA TÜRK KATILIM BANKASI A.Ş. | General | Services | B | AQ | AQ | Public | 1,2,3 |
| ANADOLU CAM SANAYİİ A.Ş. (T.ŞİŞE VE CAM FAB. A.Ş.) | General | Materials | - | SA | SA | | |
| ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | C | AQ | AQ | Non-public | 1,2,3 |
| ANEL ELEKTRİK PROJE TAAHÜT VE TİCARET A.Ş. | General | Infrastructure | F | DP | NR | | |
| ARÇELİK A.Ş. | General | Manufacturing | A- | AQ | AQ | Public | 1,2,3 |
| ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş. | General | Manufacturing | A- | AQ | AQ | Public | 1,2,3 |
| AYGAZ A.Ş. | General | Fossil fuels | F | DP | NR | | |
| BERA HOLDİNG A.Ş. | Paper & forestry | Materials | F | DP | X | | |
| BEŞİKTAŞ FUTBOL YATIRIMLARI SANAYİ VE TİCARET A.Ş. | General | Hospitality | F | NR | NR | | |
| BİM BİRLEŞİK MAĞAZALAR A.Ş. | General | Retail | F | DP | DP | | |
| BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş. | Metals & mining | Materials | F | DP | X | | |
| CARREFOURSA CARREFOUR SABANCI TİCARET MERKEZİ A.Ş. | General | Retail | F | DP | NR | | |
| COCA-COLA İÇECEK A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | B | AQ | AQ | Public | 1,2,3 |
| ÇEMAŞ DÖKÜM SANAYİ A.Ş. | Steel | Materials | F | DP | X | | |
| ÇEMTAŞ ÇELİK MAKİNA SANAYİ VE TİCARET A.Ş. | Steel | Materials | F | DP | DP | | |
| DENİZBANK A.Ş. | General | Services | F | DP | DP | | |
| DEVA HOLDİNG A.Ş. | General | Biotech, health care & pharma | F | NR | NR | | |
| DOĞAN ŞİRKETLER GRUBU HOLDİNG A.Ş. | General | Services | F | NR | NR | | |
| DOĞTAŞ KELEBEK MOBİLYA SANAYİ VE TİCARET A.Ş. | General | Manufacturing | F | NR | X | | |
| DOĞUŞ OTOMOTİV SERVİS VE TİCARET A.Ş. | General | Retail | F | DP | NR | | |
| EGE ENDÜSTRİ VE TİCARET A.Ş. | General | Manufacturing | F | NR | NR | | |
| EİS ECZACIBAŞI İLAÇ, SINAI VE FİNANSAL YATIRIMLAR SAN. VE TİC. A.Ş. | General | Biotech, health care & pharma | F | DP | NR | | |
| ENERJISA ENERJİ A.Ş. | Electric utilities | Infrastructure | NS | AQ | X | Non-public | 1 |
| ENKA İNŞAAT VE SANAYİ A.Ş. | Electric utilities | Power generation | B | AQ | AQ | Public | 1,2,3 |
| EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş. | Steel | Materials | F | NR | NR | | |
| FENERBAHÇE FUTBOL A.Ş. | General | Hospitality | F | DP | NR | | |
| FLAP KONGRE TOPLANTI HİZMETLERİ OTOMOTİV VE TURİZM A.Ş. | General | Services | F | NR | X | | |
| FORD OTOMOTİV SANAYİ A.Ş. | Transport OEMS | Manufacturing | B | AQ | AQ | Public | 1,2,3 |
| GALATASARAY SPOR TİF SINAI VE YATIRIMLAR A.Ş. | General | Hospitality | F | DP | NR | | |
| GERSAN ELEKTRİK TİCARET VE SANAYİ A.Ş. | General | Manufacturing | F | NR | X | | |
| GLOBAL YATIRIM HOLDİNG A.Ş. | General | Transportation services | F | DP | NR | | |
| GOODYEAR LASTİKLERİ T.A.Ş. | General | Manufacturing | F | NR | NR | | |
| GÖLTAŞ GÖLLER BÖLGESİ ÇİMENTO SAN. VE TİC.A.Ş. | Cement | Materials | F | NR | NR | | |
| GSD HOLDİNG A.Ş. | General | Services | F | DP | AQ | | |

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CLIMATE CHANGE / TURKEY 2019

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2019 DISCLOSED EMISSION

| COMPANY - REQUESTED | PRIMARY QUESTIONNAIRE | ACS INDUSTRY | | | | | | |
|--|--------------------------|-------------------------------|----|----|----|------------|--|-------|
| CDP TURKEY CLIMATE CHANGE SAMPLE (BIST-100) | | | | | | | | |
| GÜBRE FABRİKALARI T.A.Ş. | Chemicals | Materials | F | DP | NR | | | |
| HÜRRİYET GAZETECİLİK VE MATBAACILIK A.Ş. | General | Services | F | DP | DP | | | |
| ICBC TURKEY BANK A.Ş. | General | Services | F | NR | X | | | |
| IŞIKLAR ENERJİ VE YAPI HOLDİNG A.Ş. | General | Manufacturing | F | DP | X | | | |
| İHLAS GAYRİMENKUL PROJE GELİŞTİRME VE TİCARET A.Ş. | General | Apparel | F | NR | X | | | |
| İHLAS HOLDİNG A.Ş. | General | Infrastructure | F | NR | NR | | | |
| İPEK DOĞAL ENERJİ KAYNAKLARI ARAŞTIRMA VE ÜRETİM A.Ş. | Oil & gas | Fossil fuels | F | NR | NR | | | |
| İSKENDERUN DEMİR VE ÇELİK A.Ş. | Steel | Materials | F | NR | X | | | |
| İŞ FİNANSAL KİRALAMA A.Ş. | General | Services | F | NR | X | | | |
| İTTİFAK HOLDİNG A.Ş. | General | Services | F | NR | X | | | |
| KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş. | Steel | Materials | D | AQ | AQ | Non-public | | 1 |
| KARSAN OTOMOTİV SANAYİİ VE TİCARET A.Ş. | Transport OEMS | Manufacturing | F | DP | NR | | | |
| KARTONSAN KARTON SANAYİ VE TİCARET A.Ş. | Paper & forestry | Manufacturing | F | NR | NR | | | |
| KENT GIDA MADDELERİ SANAYİİ VE TİCARET A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | F | NR | NR | | | |
| KOÇ HOLDİNG A.Ş. | Oil & gas | Fossil fuels | F | NR | NR | | | |
| KORDSA TEKNİK TEKSTİL A.Ş. | General | Manufacturing | B | AQ | AQ | Public | | 1,2 |
| KOZA ALTIN İŞLETMELERİ A.Ş. | Metals & mining | Materials | F | NR | NR | | | |
| KOZA ANADOLU METAL MADENCİLİK İŞLETMELERİ A.Ş. | Metals & mining | Materials | F | NR | NR | | | |
| MAVİ GİYİM SANAYİ VE TİCARET A.Ş. | General | Retail | F | NR | NR | | | |
| METRO TİCARİ VE MALİ YATIRIMLAR HOLDİNG A.Ş. | Transport services | Transportation services | F | NR | NR | | | |
| MİGROS TİCARET A.Ş. | General | Retail | A- | AQ | AQ | Public | | 1,2,3 |
| MLP SAĞLIK HİZMETLERİ A.Ş. | General | Biotech, health care & pharma | F | DP | X | | | |
| NET HOLDİNG A.Ş. | General | Hospitality | F | DP | X | | | |
| NETAŞ TELEKOMÜNİKASYON A.Ş. | General | Manufacturing | C | AQ | AQ | Non-public | | 1,2,3 |
| ODAŞ ELEKTRİK ÜRETİM SANAYİ TİCARET A.Ş. | Electric utilities | Power generation | F | NR | NR | | | |
| OTOKAR OTOMOTİV VE SAVUNMA SANAYİ A.Ş. | Transport OEMS | Manufacturing | F | NR | NR | | | |
| PARK ELEKTRİK ÜRETİM MADENCİLİK SANAYİ VE TİCARET A.Ş. | Metals & mining | Materials | F | NR | NR | | | |
| PEGASUS HAVA TAŞIMACILIĞI A.Ş. | Transport services | Transportation services | B | AQ | AQ | Public | | 1,2 |
| PETKİM PETROKİMYA HOLDİNG A.Ş. | Chemicals | Materials | F | NR | NR | | | |
| QNB FİNANSBANK A.Ş. | General | Services | F | NR | NR | | | |
| SABANCI HOLDİNG A.Ş. | General | Services | C | AQ | DP | Public | | 1,2,3 |
| SASA POLYESTER SANAYİ A.Ş. | Other-base chemicals | Materials | F | NR | NR | | | |
| SODA SANAYİ A.Ş. (T.ŞİŞE VE CAM FAB. A.Ş.) | Chemicals | Materials | - | SA | SA | | | |
| ŞEKERBANK T.A.Ş. | General | Services | B | AQ | AQ | Public | | 1,2,3 |
| ŞOK MARKETLER TİCARET A.Ş. | General | Retail | F | NR | X | | | |
| T.GARANTİ BANKASI A.Ş. | General | Services | B | AQ | AQ | Public | | 1,2,3 |
| T.İŞ BANKASI A.Ş. | General | Services | C | AQ | NR | Public | | 1,2,3 |
| T.SİNAİ KALKINMA BANKASI A.Ş. | General | Services | B | AQ | AQ | Public | | 1,2,3 |
| T.ŞİŞE VE CAM FABRİKALARI A.Ş. | General | Materials | C | AQ | AQ | Public | | 1,2 |
| TAT GIDA SANAYİİ A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | F | NR | NR | | | |

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CLIMATE CHANGE / TURKEY 2019

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| COMPANY - REQUESTED | PRIMARY QUESTIONNAIRE | ACS INDUSTRY | | | | | |
|---|--------------------------|------------------------------|----|----|----|------------|-------|
| CDP TURKEY CLIMATE CHANGE SAMPLE (BIST-100) | | | | | | | |
| TAV HAVA LİMANLARI HOLDİNG A.Ş. | General | Services | C | AQ | AQ | Public | 1,2,3 |
| TEKFEN HOLDİNG A.Ş. | General | Infrastructure | A- | AQ | AQ | Public | 1,2,3 |
| TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. | Transport OEMS | Manufacturing | B- | AQ | AQ | Public | 1,2,3 |
| TRAKYA CAM SANAYİİ A.Ş. (T.ŞİŞE VE CAM FAB. A.Ş.) | General | Materials | - | SA | SA | | |
| TURCAS PETROL A.Ş. | Electric utilities | Power generation | F | DP | NR | | |
| TURKCELL İLETİŞİM HİZMETLERİ A.Ş. | General | Services | C | AQ | AQ | Public | 1,2,3 |
| TÜMOSAN MOTOR VE TRAKTÖR SANAYİ A.Ş. | General | Manufacturing | F | NR | NR | | |
| TÜPRAŞ - TÜRKİYE PETROL RAFİNERİLERİ A.Ş. | Oil & gas | Fossil fuels | F | NR | NR | | |
| TÜRK HAVA YOLLARI A.O. | Transport services | Transportation services | F | DP | NR | | |
| TÜRK TELEKOMÜNİKASYON A.Ş. | General | Services | B | AQ | AQ | Non-public | 1,2,3 |
| TÜRK TRAKTÖR VE ZİRAAT MAKİNELERİ A.Ş. | General | Manufacturing | F | DP | NR | | |
| TÜRK TUBORG BİRA VE MALT SANAYİ A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | F | DP | NR | | |
| TÜRKİYE HALK BANKASI A.Ş. | General | Services | B | AQ | AQ | Public | 1,2,3 |
| TÜRKİYE KALKINMA VE YATIRIM BANKASI A.Ş. | General | Services | B | AQ | DP | Public | 1,2,3 |
| TÜRKİYE VAKIFLAR BANKASI T.A.O. | General | Services | B | AQ | AQ | Public | 1,2,3 |
| ÜLKER BİSKÜVİ SANAYİ A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | C | AQ | DP | Non-public | 1,2,3 |
| VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş. | General | Manufacturing | C | AQ | AQ | Public | 1,2,3 |
| YAPI VE KREDİ BANKASI A.Ş. | General | Services | B | AQ | AQ | Public | 1,2,3 |
| YATAŞ YATAK VE YORGAN SANAYİ VE TİCARET A.Ş. | General | Manufacturing | F | NR | NR | | |
| ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş. | Electric utilities | Power generation | B | AQ | AQ | Public | 1,2,3 |
| OTHER RESPONDING COMPANIES | | | | | | | |
| AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. | Cement | Materials | B | AQ | AQ | Public | 1,2,3 |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | General | Manufacturing | A- | AQ | AQ | Public | 1,2,3 |
| ÇELEBİ HAVA SERVİSİ A.Ş. | General | Services | C | AQ | AQ | Non-public | 1,2 |
| ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş. | Cement | Materials | B | AQ | AQ | Public | 1,2,3 |
| DURAN DOĞAN BASIM VE AMBALAJ A.Ş. | General | Manufacturing | B | AQ | AQ | Non-public | 1,2,3 |
| EKOTEN SANAYİ VE TEKSTİL A.Ş. | General | Apparel | B | AQ | AQ | Public | 1,2,3 |
| ETİ SODA A.Ş. | Metals & mining | Materials | B | AQ | X | Public | 1,2,3 |
| İHLAS EV ALETLERİ İMALAT SANAYİ VE TİCARET A.Ş. | General | Manufacturing | NS | AQ | X | Non-public | 1,2,3 |
| KAYSERİ ULAŞIM A.Ş. | Transport services | Transportation services | B | AQ | AQ | Public | 1,2,3 |
| PINAR ENTEGRE ET VE UN SANAYİİ A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | B | AQ | AQ | Non-public | 1,2,3 |
| PINAR SÜT MAMULLERİ SANAYİİ A.Ş. | Food, beverage & tobacco | Food, beverage & agriculture | B | AQ | AQ | Non-public | 1,2,3 |
| POLİSAN HOLDİNG A.Ş. | Chemicals | Materials | D | AQ | AQ | Non-public | 1,2 |
| SUN TEKSTİL SANAYİ VE TİCARET A.Ş. (EKOTEN SA. VE TEKSTİL A.Ş.) | General | Apparel | - | SA | SA | | |
| VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş. | General | Manufacturing | C | AQ | AQ | Public | 1,2,3 |
| YÜNİSA YÜNLÜ SANAYİ VE TİCARET A.Ş. | General | Apparel | B | AQ | AQ | Public | 1,2,3 |
| ZORLU DOĞAL ELEKTRİK ÜRETİMİ A.Ş. | Electric utilities | Power generation | 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, **(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, **(NS)** Not scored since responding short version of the questionnaire. See company in brackets for further information on company status.

RESPONSE STATUS

WATER SECURITY / TURKEY 2019

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2019 RESPONSE STATUS
2018 RESPONSE STATUS
2019 PERMISSION STATUS
WATER WITHDRAWAL
WATER DISCHARGE
WATER CONSUMPTION

| COMPANY - REQUESTED | PRIMARY QUESTIONNAIRE | ACS INDUSTRY | | | | | | | |
|---|------------------------|-------------------------------|----|----|----|------------|---|---|---|
| CDP TURKEY WATER SAMPLE | | | | | | | | | |
| AFYON ÇİMENTO SANAYİ T.A.Ş. | Materials | Materials | - | SA | DP | | | | |
| AKENERJİ ELEKTRİK ÜRETİM A.Ş. | Utilities | Power generation | B- | AQ | AQ | Public | D | D | D |
| AKSA AKRİLİK KİMYA SANAYİİ A.Ş. | Consumer discretionary | Materials | B | AQ | AQ | Non-public | D | D | D |
| AKSA ENERJİ ÜRETİM A.Ş. | Utilities | Power generation | F | NR | DP | | | | |
| ALARKO HOLDİNG A.Ş. | Industrials | Infrastructure | F | NR | DP | | | | |
| ANADOLU CAM SANAYİİ A.Ş. | Materials | Materials | F | NR | DP | | | | |
| ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş. | Consumer staples | Food, beverage & agriculture | F | NR | NR | | | | |
| ARÇELİK A.Ş. | Consumer discretionary | Manufacturing | B | AQ | AQ | Public | D | D | D |
| ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş. | Industrials | Manufacturing | F | NR | NR | | | | |
| AYGAZ A.Ş. | Utilities | Fossil fuels | F | DP | NR | | | | |
| BERA HOLDİNG A.Ş. | Industrials | Materials | F | DP | X | | | | |
| BİM BİRLEŞİK MAĞAZALAR A.Ş. | Consumer staples | Retail | F | DP | DP | | | | |
| BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş. | Industrials | Materials | F | DP | NR | | | | |
| BRİSA BRIDGESTONE SABANCI LASTİK SAN. VE TİC. A.Ş. | Consumer discretionary | Manufacturing | B | AQ | AQ | Public | D | D | D |
| CARREFOURSA CARREFOUR SABANCI TİCARET MERKEZİ A.Ş. | Consumer staples | Retail | F | DP | NR | | | | |
| COCA-COLA İÇECEK A.Ş. | Consumer staples | Food, beverage & agriculture | B | AQ | AQ | Public | D | D | D |
| ÇİMSA ÇİMENTO SANAYİİ VE TİCARET A.Ş. | Materials | Materials | B | AQ | AQ | Public | D | D | D |
| DOĞAN ŞİRKETLER GRUBU HOLDİNG A.Ş. | Industrials | Services | F | NR | X | | | | |
| EİS ECZACIBAŞI İLAÇ, SINAİ VE FİN. YAT. SAN. VE TİC. A.Ş. | Health care | Biotech, health care & pharma | F | DP | NR | | | | |
| ENERJİSA ENERJİ A.Ş. | Utilities | Infrastructure | F | NR | X | | | | |
| ENKA İNŞAAT VE SANAYİ A.Ş. | Industrials | Power generation | B | AQ | AQ | Public | D | D | D |
| EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş. | Materials | Materials | F | NR | NR | | | | |
| FORD OTOMOTİV SANAYİ A.Ş. | Consumer discretionary | Manufacturing | B | AQ | AQ | Public | D | D | D |
| GOODYEAR LASTİKLERİ T.A.Ş. | Consumer discretionary | Manufacturing | F | NR | NR | | | | |
| GÜBRE FABRİKALARI T.A.Ş. | Materials | Materials | F | DP | NR | | | | |
| İHLAS HOLDİNG A.Ş. | Industrials | Infrastructure | F | NR | X | | | | |
| İSKENDERUN DEMİR VE ÇELİK A.Ş. | Materials | Materials | F | NR | X | | | | |
| KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş. | Materials | Materials | F | NR | DP | | | | |
| KOÇ HOLDİNG A.Ş. | Industrials | Fossil fuels | F | NR | NR | | | | |
| KORDSA TEKNİK TEKSTİL A.Ş. | Consumer discretionary | Manufacturing | B | AQ | AQ | Public | D | D | D |
| KOZA ALTIN İŞLETMELERİ A.Ş. | Materials | Materials | F | NR | NR | | | | |
| KOZA ANADOLU METAL MADENCİLİK İŞLETMELERİ A.Ş. | Materials | Materials | F | NR | NR | | | | |
| MİGROS TİCARET A.Ş. | Consumer staples | Retail | B | AQ | AQ | Public | D | D | D |
| NET HOLDİNG A.Ş. | Consumer discretionary | Hospitality | F | DP | NR | | | | |
| OTOKAR OTOMOTİV VE SAVUNMA SANAYİ A.Ş. | Industrials | Manufacturing | F | NR | NR | | | | |
| POLİSAN HOLDİNG A.Ş. | Materials | Materials | C | AQ | AQ | Non-public | D | D | D |

RESPONSE STATUS

WATER SECURITY / TURKEY 2019

| COMPANY - REQUESTED | PRIMARY QUESTIONNAIRE | ACS INDUSTRY | 2019 SCORE | | | 2019 RESPONSE STATUS | | | 2018 RESPONSE STATUS | | | 2019 PERMISSION STATUS | | | WATER WITHDRAWAL | WATER DISCHARGE | WATER CONSUMPTION |
|---|------------------------|------------------------------|------------|----|----|----------------------|----|----|----------------------|----|----|------------------------|---|---|------------------|-----------------|-------------------|
| | | | F | NR | X | F | NR | DP | F | NR | DP | Public | D | D | | | |
| CDP TURKEY WATER SAMPLE | | | | | | | | | | | | | | | | | |
| SASA POLYESTER SANAYİ A.Ş. | Materials | Materials | F | NR | X | | | | | | | | | | | | |
| SODA SANAYİ A.Ş. | Materials | Materials | F | NR | DP | | | | | | | | | | | | |
| T.ŞİŞE VE CAM FABRİKALARI A.Ş. | Industrials | Materials | F | NR | DP | | | | | | | | | | | | |
| TEKFEN HOLDİNG A.Ş. | Industrials | Infrastructure | A- | AQ | AQ | Public | D | D | D | | | | | | | | |
| TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. | Consumer discretionary | Manufacturing | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| TRAKYA CAM SANAYİİ A.Ş. | Industrials | Materials | F | NR | DP | | | | | | | | | | | | |
| TÜMOSAN MOTOR VE TRAKTÖR SANAYİ A.Ş. | Industrials | Manufacturing | F | NR | NR | | | | | | | | | | | | |
| TÜPRAŞ -TÜRKİYE PETROL RAFİNERİLERİ A.Ş. | Energy | Fossil fuels | F | NR | NR | | | | | | | | | | | | |
| TÜRK TRAKTÖR VE ZİRAAT MAKİNELERİ A.Ş. | Industrials | Manufacturing | F | DP | NR | | | | | | | | | | | | |
| TÜRK TUBORG BİRA VE MALT SANAYİ A.Ş. | Consumer staples | Food, beverage & agriculture | F | DP | NR | | | | | | | | | | | | |
| ÜLKER BİSKÜVİ SANAYİ A.Ş. | Consumer staples | Food, beverage & agriculture | C | AQ | DP | Public | D | D | D | | | | | | | | |
| VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş. | Consumer discretionary | Manufacturing | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş. | Consumer discretionary | Manufacturing | B- | AQ | DP | Public | D | D | D | | | | | | | | |
| ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş. | Utilities | Power generation | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| OTHER RESPONDING COMPANIES | | | | | | | | | | | | | | | | | |
| AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. | Materials | Materials | C | AQ | AQ | Public | D | D | D | | | | | | | | |
| ALBARAKA TÜRK KATILIM BANKASI A.Ş. | Financials | Services | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| DURAN DOĞAN BASIM VE AMBALAJ A.Ş. | Materials | Manufacturing | B- | AQ | AQ | Non-public | | | | | | | | | | | |
| ETİ SODA A.Ş. | Materials | Materials | A | AQ | X | Public | D | D | D | | | | | | | | |
| İHLAS EV ALETLERİ İMALAT SANAYİ VE TİCARET A.Ş. | Consumer discretionary | Manufacturing | NS | AQ | X | Non-public | | | | | | | | | | | |
| PINAR ENTEGRE ET VE UN SANAYİİ A.Ş. | Consumer staples | Food, beverage & agriculture | B | AQ | AQ | Non-public | D | D | D | | | | | | | | |
| PINAR SÜT MAMULLERİ SANAYİİ A.Ş. | Consumer staples | Food, beverage & agriculture | B | AQ | AQ | Non-public | D | D | D | | | | | | | | |
| SABANCI HOLDİNG A.Ş. | Financials | Services | B- | AQ | X | Public | D | D | D | | | | | | | | |
| ŞEKERBANK T.A.Ş. | Financials | Services | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| T.GARANTİ BANKASI A.Ş. | Financials | Services | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| TÜRKİYE HALK BANKASI A.Ş. | Financials | Services | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| YAPI VE KREDİ BANKASI A.Ş. | Financials | Services | A- | AQ | AQ | Public | D | D | D | | | | | | | | |
| YÜNSA YÜNLÜ SANAYİ VE TİCARET A.Ş. | Consumer discretionary | Apparel | B- | AQ | AQ | Public | D | D | D | | | | | | | | |
| ZORLU DOĞAL ELEKTRİK ÜRETİMİ A.Ş. | Energy | Power generation | 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, **(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, **(NS)** Not scored since responding short version of the questionnaire. See company in brackets for further information on company status.

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DOI number: 10.5900/SU_SOM_WP.2020.39726

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