

# CDP Climate Change Report 2016

## Turkey Edition

Written on behalf of 827 investors with US\$100 trillion in assets





**Measurement and transparency are where meaningful climate action starts, and as governments work to implement the Paris Agreement, CDP will be shining a spotlight on progress and driving a race to net-zero emissions.**

**The Paris Agreement – unprecedented in speed of ratification – and the adoption of the Sustainable Development Goals (SDGs) marked the start of a new strategy for the world, with a clear message for businesses: the low-carbon revolution is upon us. By agreeing to limit global temperature rises to well below 2°C, governments have signaled an end to the fossil fuel era and committed to transforming the global economy.**

The choice facing companies and investors has never been clearer: seize the opportunities of a carbon-constrained world and lead the way in shaping our transition to a sustainable economy; or continue business as usual and face serious risks – from regulation, shifts in technology, changing consumer expectations and climate change itself. CDP's data shows that hundreds of companies are already preparing for the momentous changes ahead, but many are yet to grapple with this new reality.

Investors are poised to capitalize on the opportunities that await. Some of the biggest index providers in the world, including S&P and STOXX, have created low-carbon indices to help investors direct their money towards the sustainable companies of the future. Meanwhile, New York State's pension fund – the third largest in the United States – has built a US\$2 billion low-carbon index in partnership with Goldman Sachs, using CDP data.

With trillions of dollars' worth of assets set to be at risk from climate change, investors are more focused than ever on winners and losers in the low-carbon transition. Information is fundamental to their decisions. Through CDP, more than 800 institutional investors with assets of over US\$100 trillion are asking companies to disclose how they are managing the risks posed by climate change. Their demands don't stop there: international coalitions of investors with billions of dollars under management are requesting greater transparency on climate risk at the AGMs of the world's biggest polluters.

The glass is already more than half full on environmental disclosure. Over fifteen years ago, when we started CDP, climate disclosure was nonexistent in capital markets. Since then our annual request has helped bring disclosure into the mainstream. Today some 5,800 companies, representing close to 60% of global market capitalization, disclose through CDP.

Now, we are poised to fill the glass. We welcome the FSB's new Task Force on Climate-related Financial Disclosures, building on CDP's work and preparing the way for mandatory climate-related disclosure across all G20 nations. We look forward to integrating the Task Force recommendations into our tried and tested disclosure system and working together to take disclosure to the next level.

We know that business is key to enabling the global economy to achieve – and exceed – its climate goals. This report sets the baseline for corporate climate action post-Paris. In future reports, we'll be tracking progress against this baseline to see how business is delivering on the low-carbon transition and enabling investors to keep score. Already, some leading companies in our sample – including some of the highest emitters – are showing it's possible to reduce emissions while growing revenue, and we expect to see this number multiply in future years.

Measurement and transparency are where meaningful climate action starts, and as governments work to implement the Paris Agreement, CDP will be shining a spotlight on progress and driving a race to net-zero emissions.

The Paris Agreement and the SDGs are the new compass for business. Companies across all sectors now have the chance to create this new economy and secure their future in doing so. High-quality information will signpost the way to this future for companies, investors and governments – never has there been a greater need for it.



## Melsa Ararat

Director, CDP Turkey

Sabancı University Corporate Governance Forum



It gives me great pleasure to present our 7th annual CDP Turkey Climate Change Report and express our gratitude to our sponsors and partners that made it possible. My congratulations also to the boards of those companies that disclosed their risks and opportunities related to climate change and by doing so exemplified prudent governance.

Unfortunately, our current understanding of the potential financial risks posed by climate change, not only to companies and investors but also the financial system, is limited. Mark Carney, the chairman of the G-20's Financial Stability Board (FSB) and the governor of the Bank of England, refer to this problem as the 'tragedy of horizons'. The long-term nature and unpredictable scale of the problems caused by climate change pose extraordinary challenges for economic decision makers. FSB has recently reiterated that the lack of climate change disclosure is one of the key vulnerabilities of the financial system. Climate-related financial risks have been categorized along nine interlinked 'planetary boundaries':

- ▼ Global warming (e.g., temperature change)
- ▼ Biosphere integrity (e.g., biodiversity)
- ▼ Freshwater use
- ▼ Land-system change (e.g., deforestation and human migration)
- ▼ Ocean acidification
- ▼ Depletion of stratospheric ozone
- ▼ Biochemical flows (e.g., nitrogen and phosphorus cycles)
- ▼ Atmospheric-aerosol loading
- ▼ Novel entities (e.g., chemical pollution and new types of engineered materials or organisms)<sup>1</sup>

FSB foresees a change towards a higher reliance on markets and less on banks in the financing of business, and is pushing for reforms led by G-20. This strategic shift requires further emphasis on the disclosure of material risks as they relate to the planetary boundaries. The FSB Task Force on Climate-related Financial Disclosures (FSB-TCFD) was established to address this lack of transparency in 2015 under the chairmanship of Michael Bloomberg with Mary Schapiro in a special advisory role. FSB-TCFD will develop 'voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders'. A disclosure system, building upon CDP's work to-date, is likely to be adopted and advocated by G-20 sooner rather than later.

Within that context, I am happy to report that the aggregated market capitalization of those Turkish companies that disclosed their climate change response policies in 2016 through CDP, represent 50% of the total market cap of BIST-100 companies. Moreover, 91% of the responding companies report that climate change has been integrated into their business strategy. Furthermore, the quality of disclosure by Turkish companies deserves recognition. This year two of the disclosing companies have been classified as 'A' class, together with 193 other companies around the world that make the 'Global A list'. The fact that one of these companies is a bank and the other is an industrial company must assure Turkey's economic decision makers that Turkey's private sector is aware of the existential risks and, of course, opportunities stemming from climate change.

Turkey is represented in the FSB's Plenary, its sole decision making body, by the Governor of the Central Bank of Turkey, Mr. Murat Çetinkaya and the Undersecretary of Treasury, Mr. Osman Çelik. This picture should assure them that bolder strategies for the transition to a low-carbon economy will be embraced by the Turkish private sector that are investable by international institutional investors.

The Paris Agreement which has been ratified and entered into force within record time is not only about climate change; it will also change the path and the nature of development worldwide. Undoubtedly the nature of competition will also change. As a major source of greenhouse gas emissions, business has a significant role to play in enabling the global economy to achieve its sustainability goals and in securing a prosperous and low-carbon economy for all.

Turkey is one of the two G-20 countries that haven't yet ratified the Paris Agreement. Turkey was criticized heavily at COP 22 meetings in Marrakech for seeking funding for climate action under the Paris Agreement without even ratifying it. Commentators noted that Turkey is making big plans to open coal plants in regions with water shortages and serious air pollution; they argued that Turkey should first cut support for coal and demonstrate its commitment towards de-carbonization before making claims for financial support under the Paris Agreement. We hope that this report will encourage Turkey's policy makers to trust the mitigation and adaptation capabilities of Turkey's largest listed companies that are targeted by international institutional investors. We may then hope that Climate Action Network, that brings together 950 NGOs from 115 countries, will not again assign their 'Fossil of the Day Award' to Turkey at the next COP meeting.

Sabancı University Corporate Governance Forum embraces its role as a global institutional citizen through facilitating better disclosure as a means to a better allocation of financial resources, good governance and better policy making.

<sup>1</sup> J. Rockström et al., "A safe operating space for humanity," *Nature*, vol. 461, no. 24, September 2009, 472–475; and Will Steffen et al., "Planetary boundaries: Guiding human development on a changing planet," *Science*, vol. 347, February 13, 2015.

## Nevra Özhatay

General Manager, ÇİMSA



As Çimsa, we make efforts with the objective of becoming a leading cement and building materials company that creates value for a sustainable future. Our sustainability policy aims to make the sustainability approach a part of the corporate culture, and to integrate it in the decision-making, implementation and business practice processes of individuals, teams and stakeholders through products and services. In this direction, we perform consistent studies on combating negative impacts of climate change. CDP is an international non-profit organization, which raises public awareness and reports companies' policies towards climate change related risks. We believe supporting CDP contributes to our society and to our country. We, as Çimsa, are proud to be the first and only company in our sector, which succeeds to be one of the CDP Turkey Climate Leaders in 2016.

As one of the first and only Turkish member of Cement Sustainability Initiative (CSI) under the World Business Council for Sustainable Development (WBCSD) we welcome the Paris Agreement entering into force as a key milestone in establishing a stable regulatory framework to enable the business community to scale up the implementation of low-carbon solutions for climate change mitigation and adaptation.

The cement sector has been working collectively on measuring and reporting its CO2 emissions while developing solutions for mitigation and adaptation through the CSI. We support this with publishing our sustainability reports compatible with the Global Reporting Initiative (GRI) Sustainability Reporting Guide and the United Nations Global Compact (UNGC) principles and report to CDP on climate change and water for a long time. We believe that the Paris Agreement demonstrates a clear commitment to fight against climate change and its impacts and encourages further cooperation between private companies, policy makers and the financial community.

Çimsa embraces "the Climate Action" vision, which is a part of the Global Targets for 2030 United Nations Sustainable Development, and we will continue to make progress on this path.

## Neslihan Beyhan

Director, Accounting Advisory Services, Deloitte



Deloitte Turkey is delighted to be the 2016 sponsor of CDP Turkey Climate Change Report as the scoring and the report writing partner. We congratulate those companies in addressing one of the society's and next generations' most important challenge which is climate change and global warming.

Deloitte has been performing the scoring and the report writing activities of CDP during 2015 and 2016 fiscal years. The scoring methodology provides a score which assesses progress towards environmental stewardship as reported by a company's CDP response. The assessment is performed in four areas such as disclosure, awareness, management and leadership. To ensure the quality of the scoring process, our team joins the CDP scoring training every year. The CDP London team also performs quality checks in our scoring.

Sustainability has become a critical issue towards all industries. Top companies consider sustainability an opportunity of obtaining competitive advantages. The operations of enterprise shall adjust against

the needs of economy, society, and environment with restricted self-discipline. That results in a more environmental friendly manufacturing, as well as more competitive products or effective processes.

How companies respond to the stakeholders with regard to expectations for corporate social responsibility has become the primary challenge. Deloitte helps corporate to face those challenges from corporate governance, risk management, economic, social and environmental aspects.

The Deloitte network is committed to driving societal change and promoting environmental sustainability. Working in innovative ways with government, non-profit organizations, and civil society, we are designing and delivering solutions that contribute to a sustainable and prosperous future for all.

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# CDP Turkey respondents in 2016

## BIST-100 Respondents in 2016

Afyon Çimento Sanayi T.A.Ş.

Akbank T.A.Ş.

Akçansa Çimento Sanayi ve Ticaret A.Ş.

Akenerji Elektrik Üretim A.Ş.

Alarko Holding A.Ş.

Anadolu Cam Sanayi A.Ş. (SA)

Arçelik A.Ş.

Aselsan Elektronik Sanayi ve Ticaret A.Ş.

Avivasa Emeklilik ve Hayat A.Ş. (SA)

Bagfaş Bandırma Gübre Fabrikaları A.Ş.

Brisa Bridgestone Sabancı Lastik San. ve Tic. A.Ş.

Coca Cola İçecek A.Ş.

Çelebi Hava Servisi A.Ş.

Çimsa Çimento Sanayi ve Ticaret A.Ş.

Doğan Şirketler Grubu Holding A.Ş.

Ford Otomotiv Sanayi A.Ş.

Kordsa Global Endüstriyel İplik ve Kord Bezi San. ve Tic. A.Ş.

Migros Ticaret A.Ş.

Netaş Telekomünikasyon A.Ş.

Pegasus Hava Taşımacılığı A.Ş.

Sabancı Holding A.Ş.

Soda Sanayi A.Ş. (SA)

Şekerbank T.A.Ş.

T. Garanti Bankası A.Ş.

T. Sınai Kalkınma Bankası A.Ş.

T. Şişe ve Cam Fabrikaları A.Ş.

TAV Havalimanları Holding A.Ş.

Tofaş Türk Otomobil Fabrikası A.Ş.

Trakya Cam Sanayii A.Ş. (SA)

Turkcell İletişim Hizmetleri A.Ş.

Tümosan Motor ve Traktör Sanayi A.Ş.

Türkiye Halk Bankası A.Ş.

Türkiye Vakıflar Bankası T.A.O

Ülker Bisküvi Sanayi A.Ş.

Vestel Beyaz Eşya Sanayi ve Ticaret A.Ş.

Vestel Elektronik Sanayi ve Ticaret A.Ş.

Yapı ve Kredi Bankası A.Ş.

Zorlu Enerji Elektrik Üretim A.Ş.

## Non BIST-100 Respondents in 2016

Aromsa Besin Aroma ve Katkı Malzemeleri A.Ş.

Duran Doğan Basım ve Ambalaj A.Ş.

Ekoten Tekstil Sanayi ve Ticaret A.Ş.

Havalimanları Yer Hizmetleri A.Ş. (Havaş)

Ihlas Ev Aletleri İmalat Sanayi ve Ticaret A.Ş.

Mondi Tire Kutsan Kağıt ve Ambalaj Sanayi A.Ş. (SA)

OMV Petrol Ofisi A.Ş. (SA)

Pınar Süt Mamülleri Sanayii A.Ş.

Sun Tekstil Sanayi ve Ticaret A.Ş. (SA)

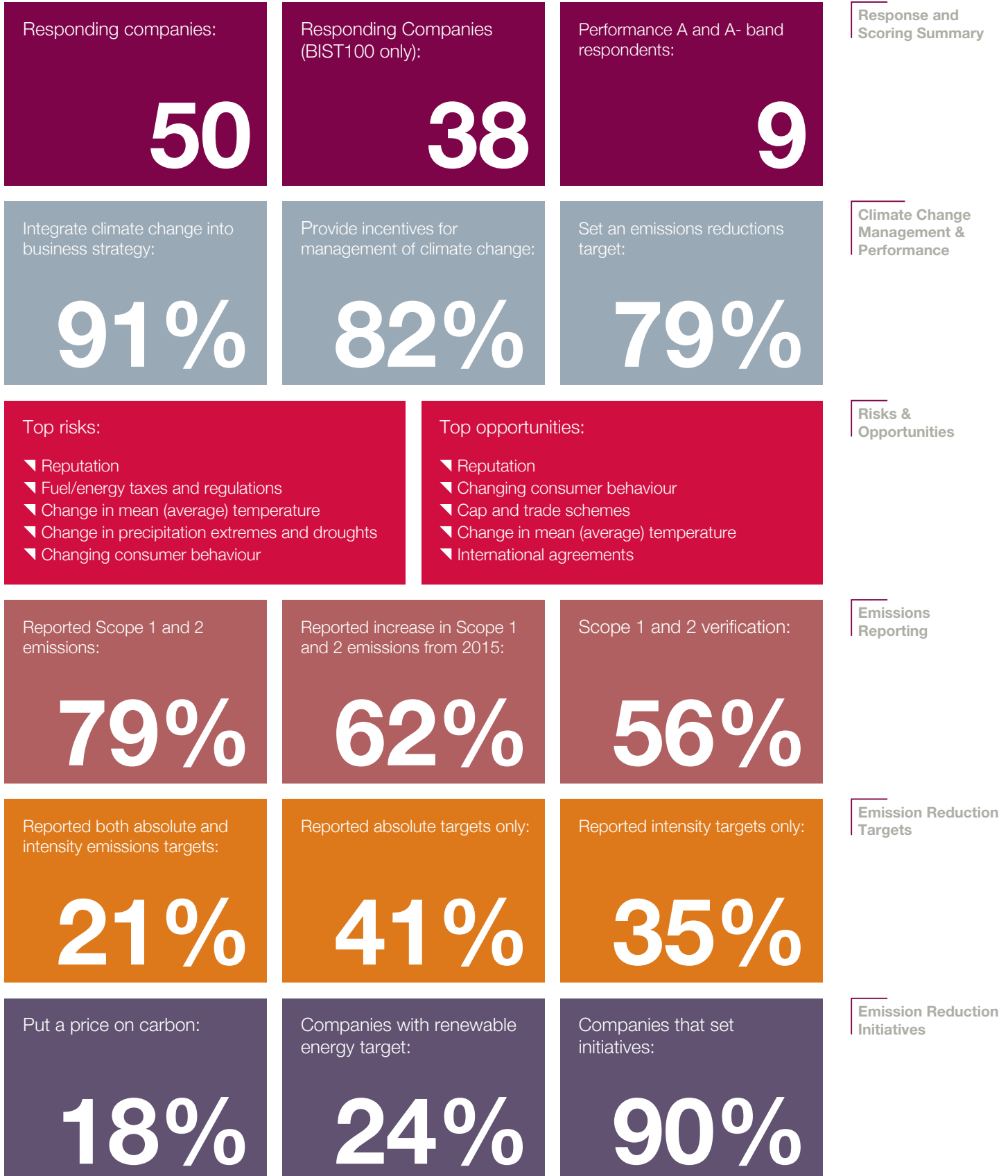
T. Kalkınma Bankası A.Ş.

Yünsa Yünlü Sanayi ve Ticaret A.Ş.

Zorlu Doğal Elektrik Üretim A.Ş.

# Responding companies snapshot

## Turkey 2016



## 1 Governance and strategy

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 associated with climate change, integration of climate change into business strategy, and having a climate risk management procedure in place. 94% of the respondents stated the highest level of direct responsibility for climate change within their organization is senior level and above. 82% of the respondents have board oversight for climate change.

## 2 Climate change risks

Responding Turkish companies appear particularly mindful of the reputational and regulation risks posed by climate change. 59% identified risks of reputation, and 50% identified risks driven by fuel/energy taxes and regulations. The next most reported risks are physical risks.

## 3 Climate change opportunities

Among the companies that responded to this question in 2016, 50% identified climate change opportunities driven by reputation, 44% driven by changes in consumer behavior. Most commonly reported opportunities are presented on the right.

## 4 Emissions: Scope 1 and Scope 2

In 2016, 79% of companies reported their Scope 1 and Scope 2 emissions. This represents a decrease from 89% in 2015. A significant portion of respondents (62%) reported an increase in their emissions. 24% reported a decrease in Scope 1 and Scope 2 emissions, however 58% of companies reported a decrease last year.

## 5 Targets

79% of companies have targets for reducing emissions from their core operations. This represents a slight increase from 68% in 2015. More should be done to decouple business growth from emissions growth as Turkey's economy is expected to grow in the near future. In 2016, 24% of responding companies also have renewable energy targets.

## 6 Verification

56% of the respondents indicated that Scope 1 and 2 emissions have been externally assured or assurance is underway. This represents a significant increase from 2015 (39%). Interest in verification is expected to grow given the new regulations on Measurement, Reporting and Verification (MRV) systems requiring companies in energy intensive sectors to get external verification in the following years.

## 7 Scope 3 emissions

In 2016, 68% of companies reported Scope 3 emissions which represents a slight decrease from 71% in 2015. Companies are yet to build capacity to successfully assess and report on many of their impacts across their value chains.

## 8 Price on carbon

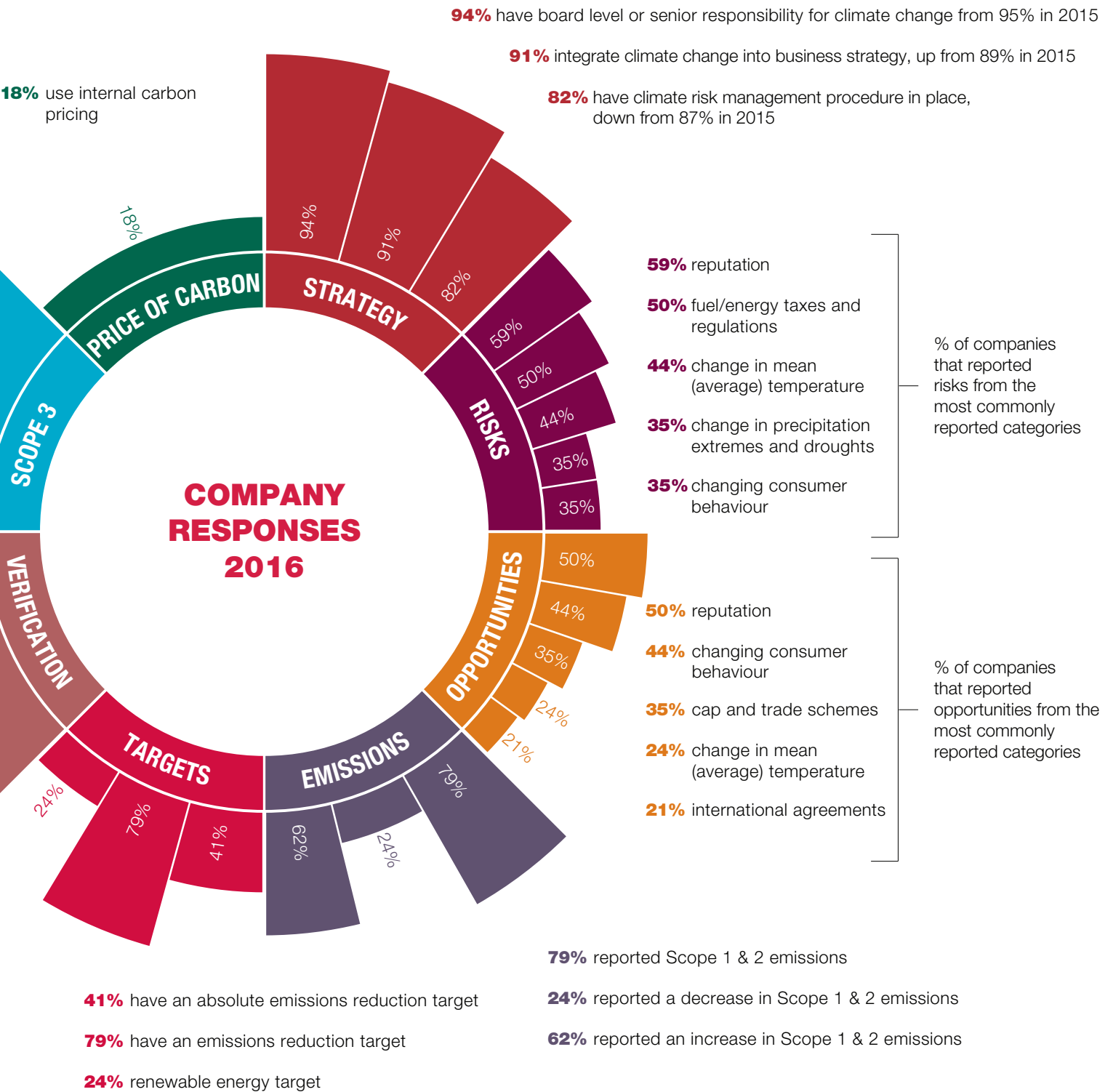
Putting a price on carbon is an essential part of any strategy to combat climate change, mitigate risks and capitalize on opportunities. In Turkey only 18% of companies put an internal price on carbon in 2016 which is expected to rise in following years.

68% reported Scope 3 emissions

56% indicated that Scope 1 and Scope 2 emissions has been externally assured or assurance is underway







# Company responses overview

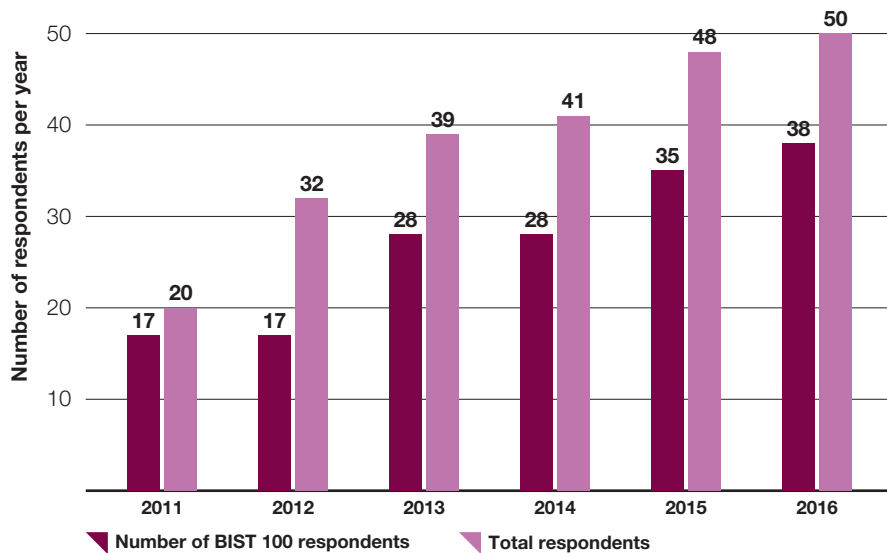
## Key Messages

Corporate engagement on climate change issues has been growing over the past six years.

**Proof Points:**

The graph below shows the number of responding companies year by year since 2011.

Figure 1. Number of responding companies since 2011

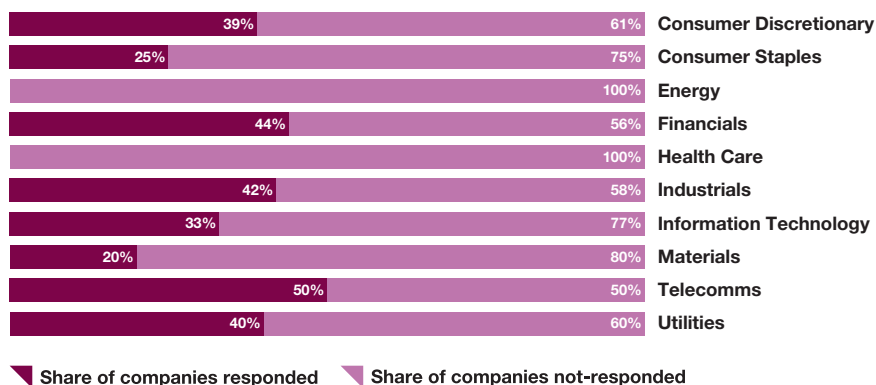


Progress in the rate of responding companies are sector specific, while some sectors are making good progress in disclosing, the more energy intensive industries are lagging.

**Proof Points:**

The graph below shows the percentage of responding and non-responding companies by sector.

Figure 2. Companies responded and not responded by sector



More companies set absolute and intensity targets to reduce emissions.

**Proof points:**

Percentage of companies that set an absolute target increased from 25% in 2015 to 41% in 2016.

Percentage of companies that set an intensity target increased from 29% in 2015 to 35% in 2016.

**Company examples:**

**Absolute targets:** The absolute target of **TSKB** is to reduce GHG emissions by 10% until the end of 2016. The road map to achieve this target is to decrease their emissions 2.5% for each year compare to base year of 2012.

**Intensity targets:** By 2020, **Migros** will decrease their stores' daily Scope 1 + Scope 2 emissions per sales area by 10%. The emission base year is 2015.

The entering into force of the Paris Agreement has an overall impact on businesses globally, but a transition to a low carbon economy in Turkey has a long way to go.

**Proof points:**

85% of all companies included in CDP's global sample already have targets in place to reduce their emissions; whereas only 79% of Turkish companies have such target.

55% of all companies included in CDP's global sample have targets for 2020 or beyond; whereas in Turkey this rate is only 32%.

29% of all companies use internal carbon pricing schemes to help manage climate risks and opportunities, while a further 19% plan to do so in the near future; by 2017, about half of the sample should have introduced carbon pricing. The rate of Turkish companies that use the internal carbon prices is much lower (18%) when compared to the global sample.

**Company examples:**

**Targets:** **Coca Cola İçecek** aims to increase the ratio of Energy Management Device equipped coolers from 77% to 89% by 2016. By this initiative, the company aim to reduce intensity emissions per cooler by 10% between 2013 and 2016.

**Carbon pricing:** **Arçelik** plans to implement an internal carbon fee in the next couple of years. Each department of the company will contribute a proportional amount to the carbon fund based on their emissions and internal carbon price. By using funds collected from the carbon fee, the company will invest in carbon reduction initiatives such as energy efficiency projects, renewable energy projects and similar environmental initiatives.

**Renewable energy:** Total electricity produced by Akenerji is 4,610,958 MWh and 30% is produced from renewable energy sources.

capacity and reductions in the electricity consumption. Garanti Bank has saved 4.73 million kWh of electricity per year, corresponding to 2,338 tCO<sub>2</sub> equivalent in the last 4 years.

✔ **A significant number of responding companies recognize that they can reduce costs significantly, by improving their energy efficiency.**

**Proof points:**

17 companies set initiatives with a payback period less than 1 year and 19 companies set initiatives with payback period of 1-3 years.

**Examples from companies that set initiatives with payback period less than 1 year:**

**Vakıfbank** extends emission reduction efforts to its suppliers through purchasing 86% of its electricity from a supplier that produces electricity only from renewable sources. In 2015, Vakıfbank avoided emission of 24338 tons of CO<sub>2</sub> eq, compared to the case if electricity was purchased from the state.

**Çimsa** made a significant reduction in emissions by careful selection of raw materials based on the result of their Research & Development studies; the company has invested in a raw material composition with lower carbon emissions.

✔ **Most of the climate change initiatives undertaken by companies are related to energy efficiency in processes, building service and fabric<sup>1</sup>.**

**Proof points:**

Respondents disclosed 72 initiatives taken to have energy efficiency in processes, building service and fabric out of 118 initiatives.

**Company examples:**

**Ford Otosan** (energy efficiency in building service): The waste heat of the Paintshop Oven at Gölcük Plant was recovered. With this project, 68,382 GJ of energy was saved annually and 3,536 ton of greenhouse gas (CO<sub>2</sub>) emission was prevented.

**Brisa** (energy efficiency in fabric): Due to the energy efficiency activities such as building heat insulation improvements, Brisa saved 235 tons of steam which corresponds to 39 tons CO<sub>2</sub>-e of GHG emissions.

**Garanti Bank** (energy efficiency in processes): The highest carbon emissions per m<sup>2</sup> in Garanti Bank's physical service buildings are derived from the use of servers. With the server virtualization project that was started in 2007, servers in the Bank's data centers throughout Turkey started to be virtualized. This technology allows the efficient utilization of server

✔ **More companies use verification schemes but there is still a long way to go particularly for Scope 3 emissions**

**Proof points:**

Turkish Companies increased the rate of the verification from 39% to 56 % in 2016.

**Company examples:**

The Companies that have independent verifications on Scope 3 emissions are limited: Arçelik, Türkiye Halk Bankası, TAV, Turkcell, Tofaş, T.Sinai Kalkınma Bankası, Türkiye Vakıflar Bankası.

**Scoring in 2016**

**In 2016, company responses in Turkey were assessed by Deloitte Turkey according to CDP's new scoring methodology. The findings show considerable progress in respondents' engagement with disclosing climate risks and actions taken. There is also an improvement in the commitment to corporate management of climate change.**

**This year's Global A List highlights companies which are at the forefront of the change to a low-carbon future. Globally, 193 companies make the A List this year corresponding to 9% of companies disclosing climate change information to investors through CDP's climate program. This year, two of those 193 companies are from Turkey: Arçelik and T. Garanti Bankası.**

<sup>1</sup> Energy efficiency in processes: e.g. heat recovery, refrigeration, fuel switch, compressed air, process water etc.

Energy efficiency in building service: eg. building controls, lighting, motors & drives, combined heat & power etc.

Energy efficiency in building fabric: eg. building shell or envelope, eg. insulation, maintenance program.

## Measuring and Disclosing

In 2016, on behalf of 827 investor signatories with US\$100 trillion in assets under management, CDP requested climate change information from BIST-100 companies, and extended invitations also to the companies that responded to CDP's invitation in previous years and that are not included in BIST-100 Index in the current year 2016. In total, 50 companies responded to CDP Climate Change Program in Turkey in 2016. Out of 50 companies, 38 are from Turkey sample (BIST-100) and 12 are self-selected companies (SSCs).

The CDP Turkey 2016 Climate Change Report presents the progress made by responding companies in reducing emissions, responding to climate related risks and opportunities, and climate change management. When compared to Global CDP results, Turkish companies performed well in assessing the risks and opportunities, and setting initiatives to tackle climate change. When compared with Global averages, there is a significant space for improvement by the companies in the Turkey sample in third party emission verification; setting absolute and science based targets and internal carbon pricing in the following years.

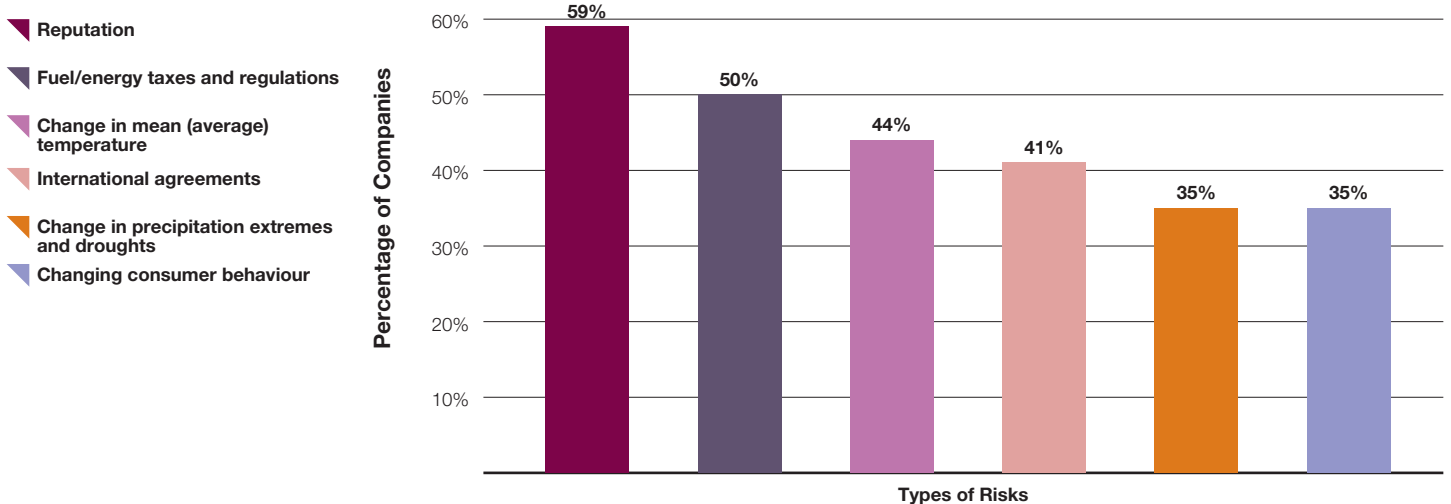
## Risks & Opportunities

In 2016, it is observed that Turkish Companies lag in terms of verification of the emission data, target setting and using internal carbon pricing strategies. However, they report the risks and opportunities stemming from climate change in detail. Most commonly reported risks are related to reputation and increased operational costs due to fuel and electricity prices and possible carbon taxes.

CDP data shows that 'changing consumer behavior' was identified as a risk by 15% of the Turkish companies during 2015. In 2016, the percentage of companies that reported changes in consumer behavior as a risk was increased to 35%. This increase is mainly attributable to the increased public awareness of serious risks associated with climate change.

Additionally, the rate of Turkish companies that identified the reputational risks in 2016 increased significantly when compared to 2015. This increase is attributable to the recognition of climate change as a very important topic in managing corporate reputation. Increasingly more companies understand that they need to safeguard their reputations through effective climate change management and communication of their climate change strategy. For example, **Turkcell** believes that consumer awareness about environmental impact of their services and products is increasing and the demand is shifting towards greener and low carbon services and products. If Turkcell cannot respond to these concerns, the company's reputation may suffer and the demand for Turkcell products and services may fall.

Figure 3a. Major Risks



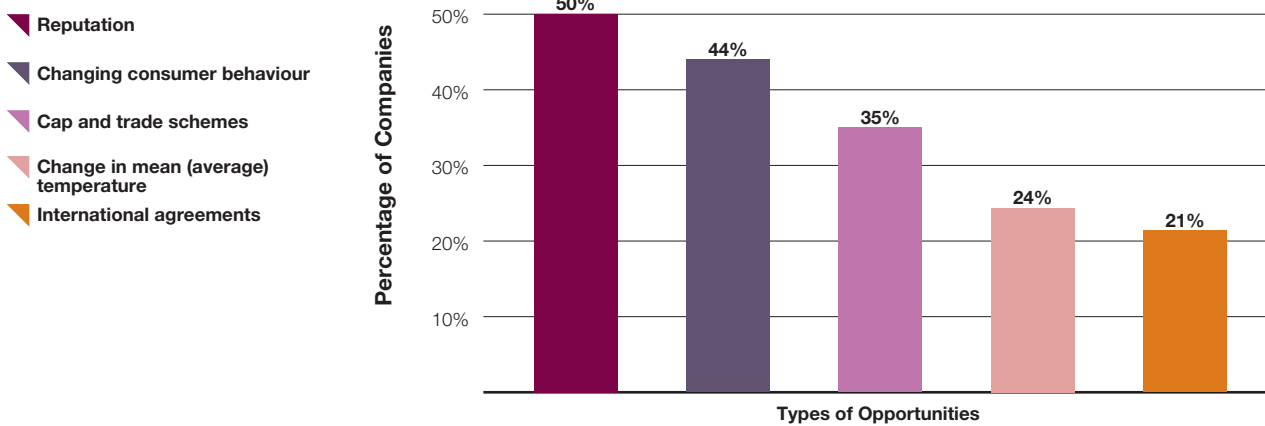


Responding companies recognize opportunities as well as risks posed by climate change. At the top of the list are opportunities related with enhanced company reputation reported by 50% of the responding companies which is followed by changing consumer behavior (44%) and cap and trade schemes (35%). For example, **Brisa** believes that Turkey may develop an

internal cap and trade scheme after 2016, independent of the provisions of Kyoto Protocol. The company considers such a platform as an opportunity to reveal its ongoing environmental performance.

Most commonly reported opportunities are presented below:

**Figure 3b. Major Opportunities**



Türkiye develops national emission reduction plan within the framework of EU-ETS Acquis approximation. If Turkey commits to make mitigation, carbon taxes may be introduced to energy intensive sector at the first attempt and this could adversely affect the operational costs of the thermal power plant.

**AKENERJİ**

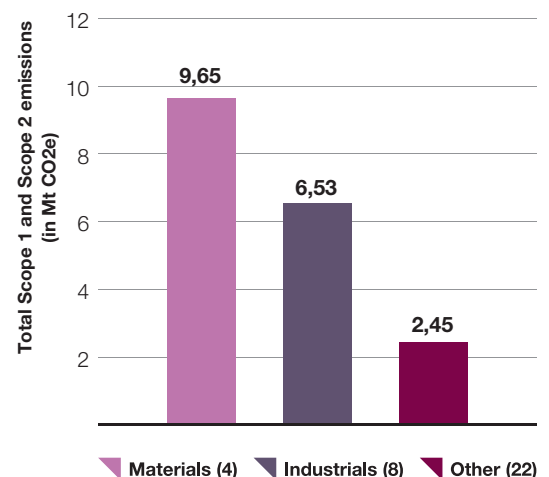
Türkiye Halk Bankası predicts that there would be an increased demand for loans to finance new investments if the government target on the share of renewable energy generation in total energy production is increased.

**TÜRKİYE HALK BANKASI**

**Emissions reporting**

Based on the disclosures of the responding companies Scope 1 and Scope 2 emissions are concentrated heavily in two sectors: materials and industrials. Together they account for 87% of the total emissions from the sample companies. The remaining sectors are responsible for only 13% of the total aggregated Scope 1 and Scope 2 emissions within the sample.

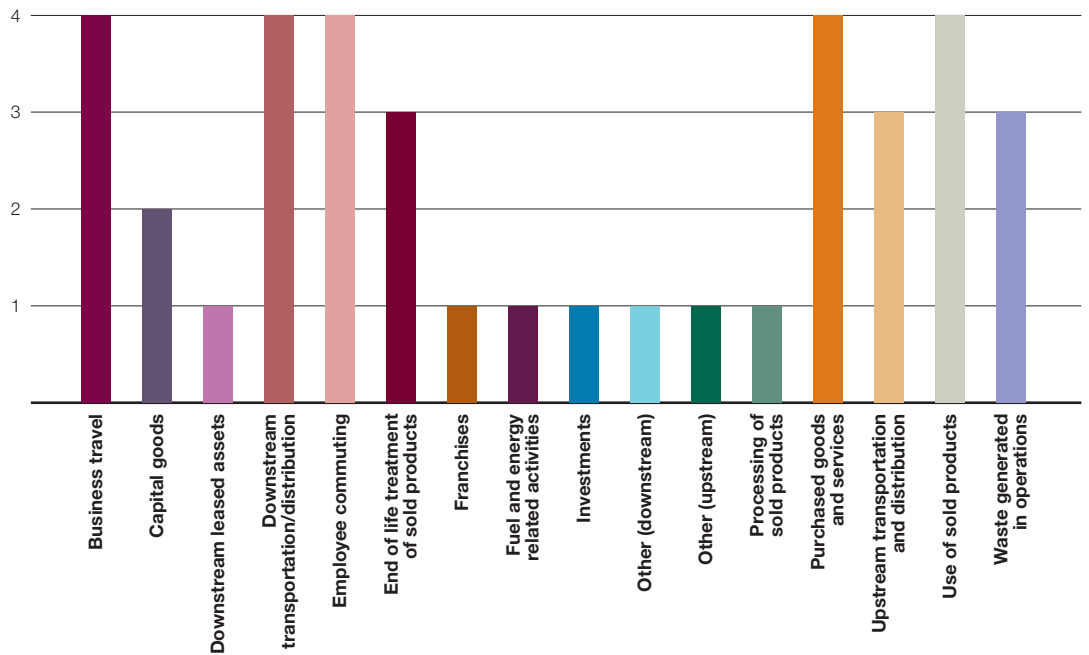
**Figure 4. Aggregated Scope 1 and Scope 2 emissions by sector. The total number of companies responded is presented in paranthesis**



The figure below represents the number of companies that reported Scope 3 emissions under different categories. The total number of companies responded is presented in parentheses for each emission category.

Business travel, employee commute and downstream transportation are reported as the most relevant emission sources, maybe because they are easier to measure, understand and reduce.

**Figure 5. Scope 3 emission categories reported by companies**

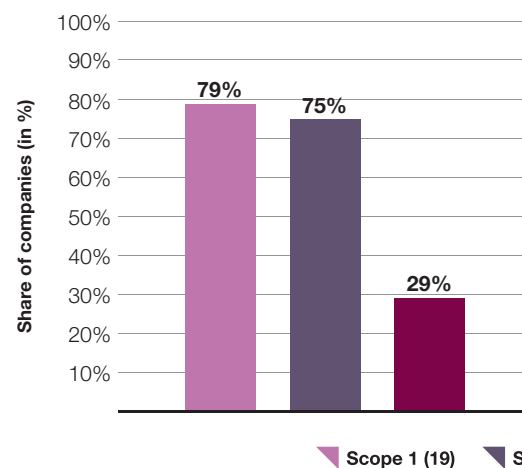


**Verification**

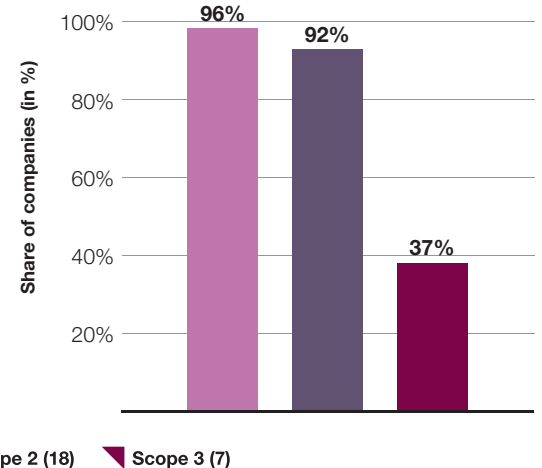
Third party verification rate must increase in order to have a reliable emission data. Since Scope 3 emissions are often more difficult to quantify when compared to

Scope 1 and Scope 2 emissions, the level of the third party verification is not sufficient in this area. Without proper accounting and verifying of the Scope 3 emissions, it is not possible to improve the performance of companies and their supply chains.

**Figure 6a. Share of companies with at least one emissions verification scheme**



**Figure 6b. Average share of emissions verified per company**



## Emissions Reduction Target

### Science Based Targets Initiative

CDP is working with the Science Based Targets initiative (SBTi) to guide companies on how best to set these GHG reduction targets. The We Mean Business coalition identifies setting SBTs as one of the key commitments companies can make. So where should companies start in setting science-based targets? The Sectoral Decarbonization Approach (SDA) is the methodology introduced by SBTi in 2015, although other methods are summarized on the website of the Science Based Targets initiative, a collaboration between CDP, the UN Global Compact, the World Resources Institute and WWF. 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.

Vakıfbank has a target of improving Energy efficiency of its ATM machines every year. The Bank already started changing old and inefficient ATM machines with high electricity efficient ones during 2015. They achieved 1.7% emission reduction/ATM machine so far.

VAKIFBANK

Arçelik aims to reduce total eCO2 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.

ARÇELİK

Mind the Science, a report from CDP, found that 'the level of effort from the corporate world is still inadequate'. While hundreds of companies are now setting emissions targets for their direct emissions, many were not compatible with a 2°C trajectory and for the ones setting targets compatible with a 2°C trajectory, only a few are long-term (looking to 2030 or beyond). The rate of the Turkish Companies with at least one emission reduction target is 79% which is comparable to the Global rate of 85%.

Among the respondents in Turkey, only three companies have identified science based targets. Six companies disclosed that they anticipate setting one in the next two years. We expect the companies to be more ambitious in setting science based targets in the future.

There has been significant improvement in recent years in the numbers of companies setting targets for emissions reductions, but these targets are in many cases unambitious in their time horizon. While 11 companies have targets for 2020 and beyond, only **Arçelik** set goals for 2030 and beyond. Most other Turkish companies don't have a long term vision to reduce their emissions. Arçelik has a long term vision with zero net carbon emission by eliminating the total eCO2 emissions by its domestic production plants by 2040.

Şekerbank declared a 5% reduction in emission intensity target. The Bank has moved its headquarters to a more efficient building in line with this target. Efforts not only include Bank's internal operations but also it's external impacts such as its supply chain and its financed emissions.

ŞEKERBANK

Figure 7. Percentage of companies with science-based targets

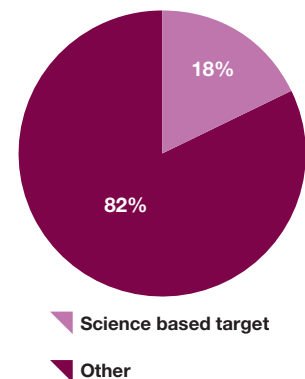
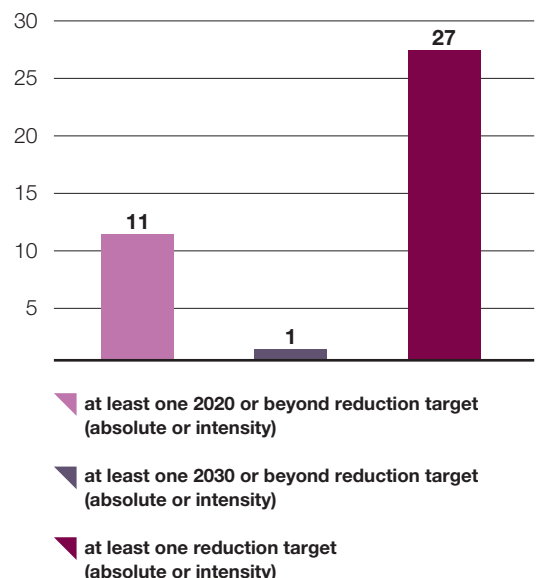


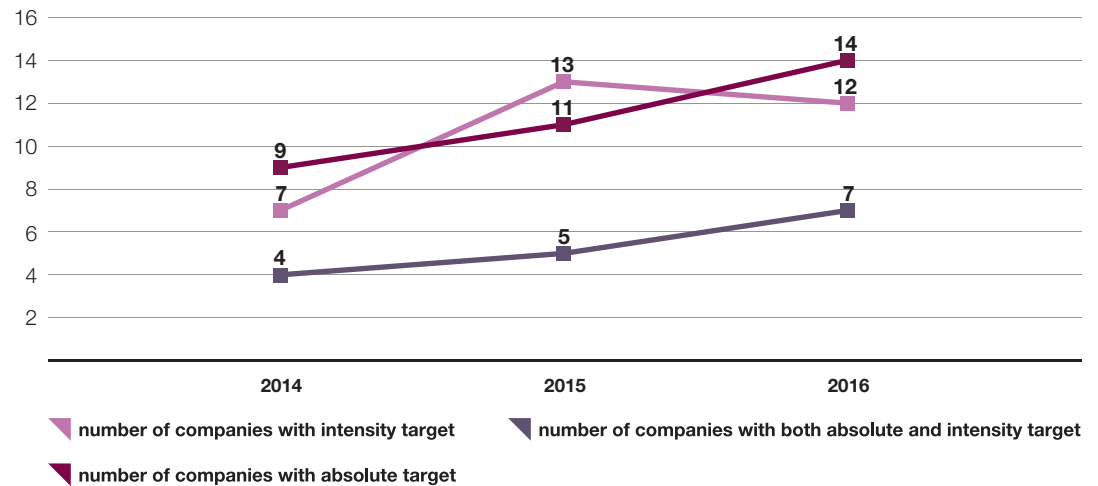
Figure 8. Companies with emission reduction targets



The trend in setting an absolute and/or intensity target in the sample is rising; however, setting targets

is not effective without realistic plans for meeting them.

**Figure 9. Number of companies with absolute and intensity target**



Targets for replacing existing energy sources with renewable energy should form a large part of any transition strategy, but at the moment, few companies have set renewable energy targets in line with their emissions reduction targets. Only five

Turkish companies identified targets for replacing existing energy sources with renewable energy. For successful climate action, the share of renewable energy must increase both in Turkey and globally.

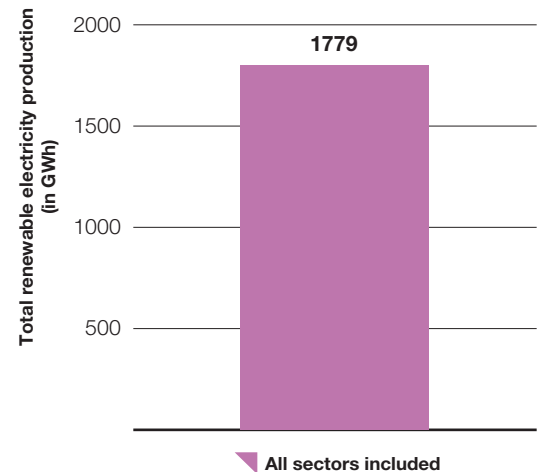
**ZORLU ENERJİ**

In line with its strategy targeting renewable energy investments, Zorlu Enerji invested in Rotor (Gökçedağ) Wind Power Plant of 135 MW installed capacity which started operating in 2009.

**FORD OTOMOTİV**

Ford reduced the value of their energy consumption per vehicle to the level of 6.16 GJ/vehicle. As a result of the energy efficiency works, they achieved 83,627 GJ in energy savings.

**Figure 10. Total renewable electricity production. The production amount is coming only from the Utility sector.**





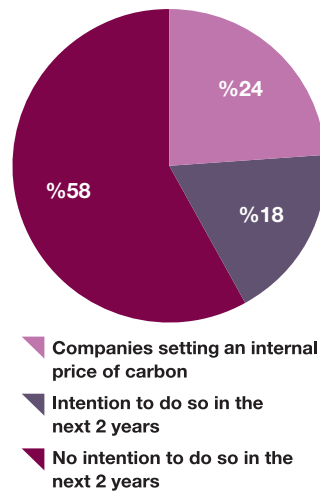
## Transition Plans

### Carbon pricing

The rate of Turkish companies that use internal carbon prices is much lower when compared to Global sample rates. 19 Turkish companies disclosed that they don't anticipate setting an internal price of carbon in the next 2 years whereas only eight companies state that they

anticipate doing so in the next 2 years. This may not be the strongest indicator of a company's commitment to climate change mitigation because in many cases carbon pricing is a regulatory instrument.

**Figure 11. Share of companies setting an internal price of carbon**



Migros uses an internal price of carbon while developing energy efficiency improvements and refrigerant gases reduction projects. Despite the difficulties in determining the cost of carbon in the absence of an Emission Trading Scheme (ETS), Migros takes into account the positive impact of revenues coming from the sales of voluntary carbon credits in GHG reduction projects.

**MIGROS**

### Carbon Pricing

Many countries are exploring effective climate policies and are increasingly looking towards using market signals such as carbon taxes, and cap and trade schemes, as essential elements of climate change action. In the context of this changing and uncertain regulatory landscape, both large and small companies over a number of sectors, including the energy sector, are incorporating the future projection of changes in greenhouse gas emissions regulation into their strategic decision making by using an internal price of carbon, also known as a shadow price.

Setting an internal price for carbon is a popular mechanism for helping companies internalise the external cost of carbon emissions. In general, an internal price of carbon is a business assumption that climate change and the associated carbon regulation poses both an inherent risk and opportunity to a company. It can be viewed as a long-term risk management strategy, and a means of quantifying and communicating the potential impact of current or future climate change regulation on your business. As demonstrated in a report by the UN Global Compact entitled "Business leadership criteria: carbon pricing" setting an internal price of carbon, regardless of the state of current regulation, significantly reduces emissions, mitigates climate change risks and drives investment decisions in more energy efficient technology.

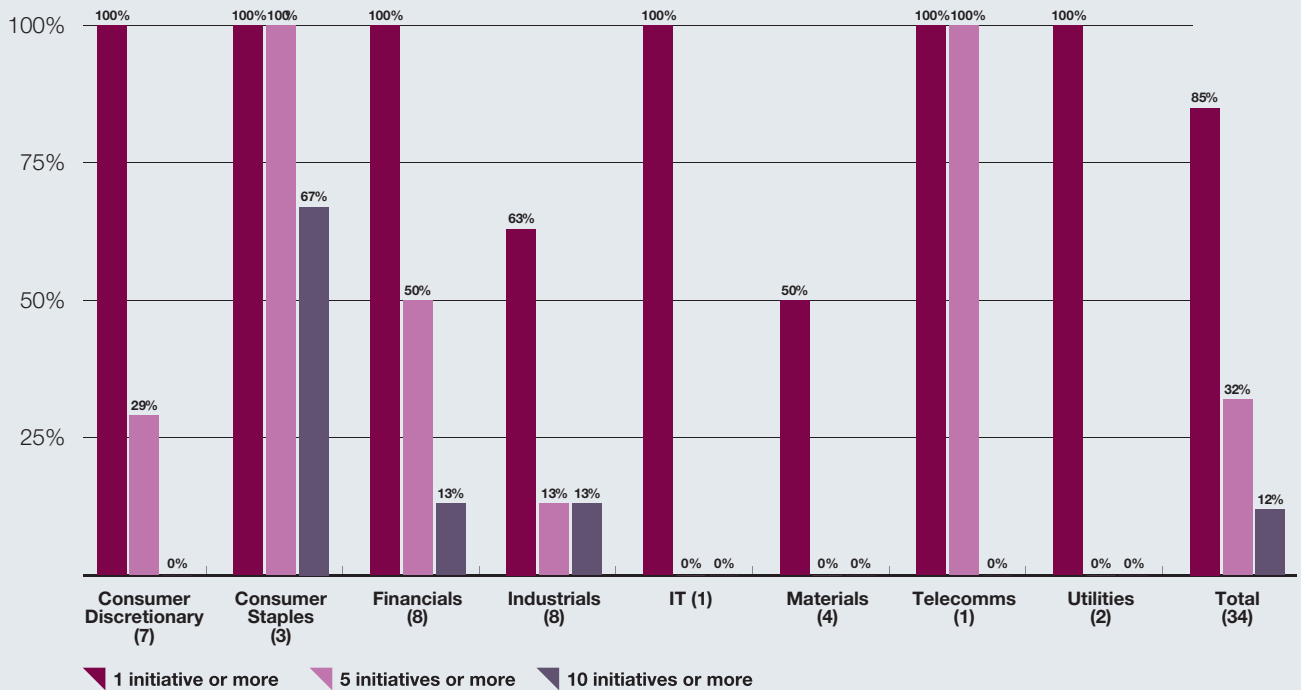
## Emissions Reduction Initiatives

There are 29 Turkish companies that set at least one initiative to reduce emissions. 70% of the initiatives taken by companies are related to energy efficiency processes.

Companies have taken a series of common-sense steps to curb carbon pollution and other greenhouse gases through initiatives that drive energy efficiency and promote clean energy. In 2016, respondents disclosed

72 initiatives taken to improve energy efficiency in processes, building service and fabric. There are five companies that have not set any initiatives during 2016. For instance **Vakıfbank** extends the strategy of emission reduction efforts to its suppliers through purchasing 86% of its electricity from a supplier which produces electricity only from renewable resources. **Çimsa** is increasing the use of alternative fuels instead of fossil fuels. **Zorlu Enerji** undertook wind power plant improvements for increasing electricity production efficiency in Gökçedağ.

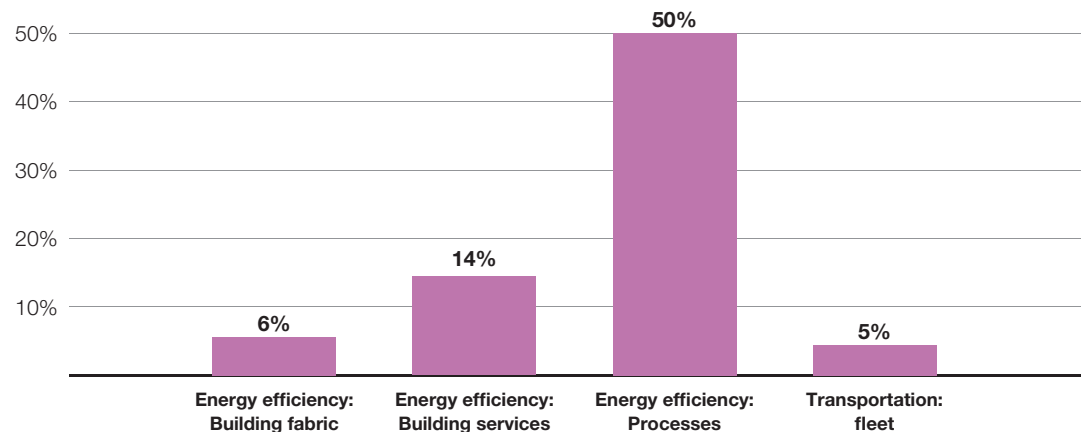
Figure 12. Share of companies with emission reduction initiatives



T.Şişe ve Cam Fabrikaları is transitioning to natural gas in social facility of Trakya Cam Trakya Plant and the Company also replacing the reciprocating compressors with higher capacity compressor at Anadolu Cam Mersin Plant.

ŞİŞECAM

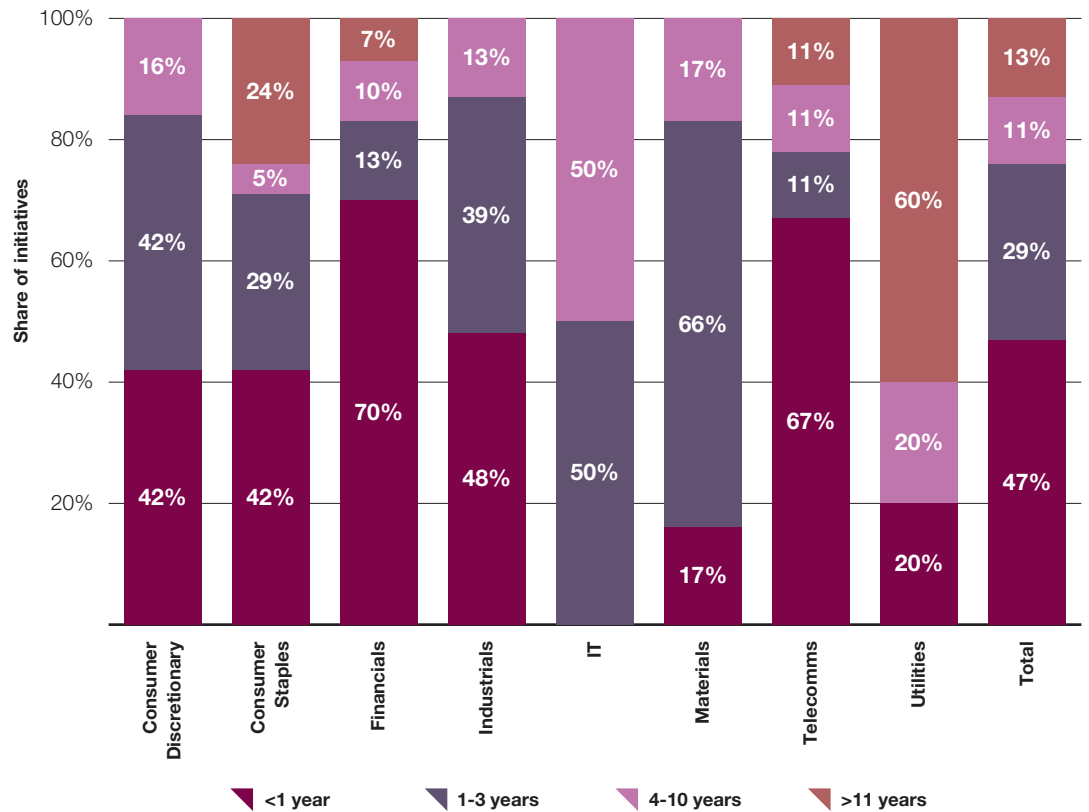
Figure 13. Top four initiatives launched by companies



By improving their energy efficiency, companies reduce their costs. 17 companies set initiatives with payback

period less than 1 year where as 19 companies set initiatives with payback period of 1-3 years.

**Figure 14. Mean payback period of initiatives per sector**



### Low carbon high profit?

#### Decoupled Growth

For too long, the assumption has been made that economic growth had to mean growth in carbon emissions, and the only reasonable aspiration was to lower the rate of growth of carbon emissions.

Further analysis showed that there is no one path to decoupling economic growth from GHG emissions. Each company took its own route. The results of our preliminary analysis underline the existing difference in approaches by companies in reducing emissions while at the same time realizing an increase in corporate revenues. This shows the importance of looking at the opportunity side of the climate challenge and of finding creative solutions to benefit from them. Decoupled means that a specific company has a revenue growth greater than 10% and reduced emissions by more than 10% over period of five years.

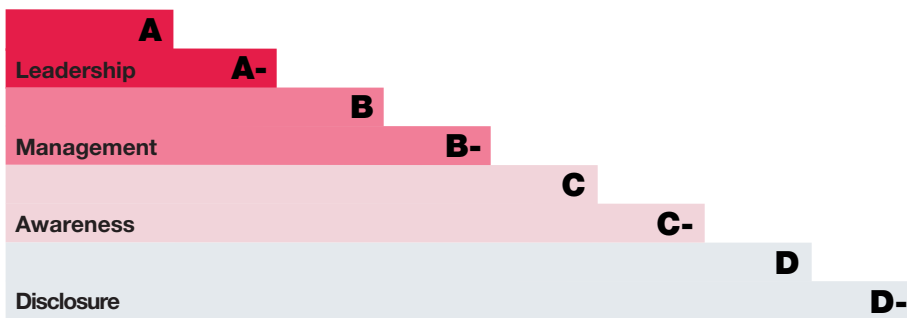
Only **TAV** reported decoupled growth over period of five years. The company made a consistent year on year achievements in reducing emissions while

realizing increase in corporate revenues. TAV can be a benchmark for other companies in Turkey in the following years.

# Communicating progress

Central to CDP's mission is communicating the progress companies have made in addressing environmental issues, and highlighting where risks may be unmanaged. In order to do so in a more intuitive way, CDP has adopted a streamlined approach to presenting scores in 2016. This new way to present scores measures a company's progress towards leadership using a 4 step approach: **Disclosure** which measures the completeness of the company's response; **Awareness**

considers 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.



<b>Leadership</b>	75-100%	A
	0-74%	A-
<b>Management</b>	40-74%	B
	0-39%	B-
<b>Awareness</b>	40-74%	C
	0-39%	C-
<b>Disclosure</b>	40-74%	D
	0-39%	D-

F: Failure to provide sufficient information to CDP be evaluated for Climate Change<sup>1</sup>

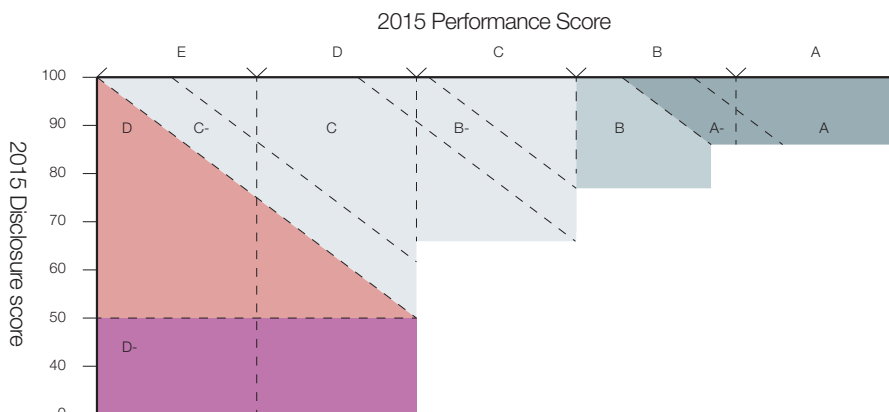
<sup>1</sup> Not all companies requested to respond to CDP do so. Companies who are requested to disclose their data and fail to do so, or fail to provide sufficient information to CDP to be evaluated will receive an F. An F does not indicate a failure in environmental stewardship.

The scoring methodology clearly outlines how many points are allocated for each question and at the end of scoring, the number of points a company has been awarded per level is divided by the maximum number that could have been awarded. The fraction is then converted to a percentage by multiplying by 100 and rounded to the nearest whole number. A minimum score of 75%, and/or the presence of a minimum number of indicators on one level will be required in order to be assessed on the next level. If the minimum score threshold is not achieved, the company will not be scored on the next level.

The final letter grade is awarded based on the score obtained in the highest achieved level. For example, Company XYZ achieved 88% in Disclosure level, 76% in Awareness and 65% in Management will receive a B. If a company obtains less than 40% in its highest achieved level, its letter score will have a minus. For

example, Company 123 achieved 76% in Disclosure level and 38% in Awareness level resulting in a C-. However, a company must achieve over 75% in Leadership to be eligible for an A and thus be part of the A List, which represents the highest scoring companies. In order to be part of the A-list a company must score 75% in Leadership, not report any significant exclusions in emissions and have at least 70% of its Scope 1 and Scope 2 emissions verified by a third party verifier using one of the accepted verification standards as outlined in the scoring methodology.

Public scores are available in CDP reports, through Bloomberg terminals, Google Finance and Deutsche Boerse's website. CDP operates a strict conflict of interest policy with regards to scoring and this can be viewed at <https://www.cdp.net/Documents/Guidance/2016/CDP-2016-Conflict-of-Interest-Policy.pdf>



## Comparing scores from previous years.

It is important to note that the 2016 scoring approach is fundamentally different from 2015, and different information is requested, so 2015 and 2016 scores are not directly comparable. However we have developed a visual representation which provides some indication on how 2015 scores might translate into 2016 scores. To use this table a company can place its score in the table and see in which range it falls into in the current scoring levels. For more detailed instructions please refer to our webinar: <https://vimeo.com/162087170>.



## 2016 Climate leaders in Turkey

### GLOBAL A LIST COMPANIES<sup>2</sup>

Arçelik A.Ş.	Consumer Discretionary	A
T.Garanti Bankası A.Ş.	Financials	A

### CDP TURKEY CLIMATE LEADERS

Arçelik A.Ş.	Consumer Discretionary	A
Brisa Bridgestone Sabancı Lastik San. ve Tic. A.Ş.	Consumer Discretionary	A-
Coca Cola İçecek A.Ş.	Consumer Staples	A-
Çimsa Çimento Sanayi ve Ticaret A.Ş.	Materials	A-
Ekoten Tekstil Sanayi ve Ticaret A.Ş.	Consumer Discretionary	A-
Migros Ticaret A.Ş.	Consumer Staples	A-
Pınar Süt Mamülleri Sanayi ve Ticaret A.Ş.	Consumer Staples	A-
T.Garanti Bankası A.Ş.	Financials	A
Tofaş Türk Otomobil Fabrikası A.Ş.	Consumer Discretionary	A-

“Sustainability is a profitable business model. We are fully committed to contributing to a low-carbon and climate resilient pathway for the sustainable future of our world. We reflect the value statement of our vision “Respects the Globe, Respected Globally” in every step of our production processes by continuously investing in low carbon technologies, manufacturing resource efficient products, innovating low-cost and long-term solutions to inherit a better and sustainable world for future generations.”

Hakan Bulgurlu, CEO, Arçelik

“We are extremely proud to be listed in the CDP Climate Change A List for the second year in a row. As one of the leading companies in Turkey regarding climate change issues, this recognition is another testament of our outstanding efforts and commitments to reduce and mitigate both our direct and indirect environmental impact.”

Fuat Erbil, CEO, Garanti Bank

<sup>2</sup> A List represents the highest scoring companies globally. There are 193 A list companies in total and two of them are from Turkey in 2016.

## CDP Turkey 2016: Response status table

Company	Sector	2016 Score	2016 Response Status	2015 Response Status	Permission Status	Disclosed Emissions
<b>BIST 100 COMPANIES</b>						
ADEL KALEMCİLİK TİCARET VE SANAYİ A.Ş.	Industrials	F	NR	X		
AFYON ÇİMENTO SANAYİ T.A.Ş.	Materials	D	AQ	AQ	Public	1 2 3
AKBANK T.A.Ş.	Financials	B	AQ	AQ	Public	1 2 3
AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	Materials	B	AQ	AQ	Public	1 2 3
AKENERJİ ELEKTRİK ÜRETİM A.Ş.	Utilities	B	AQ	AQ	Public	1 2 3
AKFEN HOLDİNG A.Ş.	Industrials	F	DP	DP		
AKSA AKRİLİK KİMYA SANAYİİ A.Ş.	Consumer Discretionary	F	DP	DP		
AKSA ENERJİ ÜRETİM A.Ş.	Utilities	F	NR	NR		
ALARKO HOLDİNG A.Ş.	Industrials	D-	AQ	AQ	Private	
ALBARAKA TÜRK KATILIM BANKASI A.Ş.	Financials	F	NR	NR		
ALCATEL LUCENT TELETAŞ TELEKOMÜNİKASYON A.Ş.	Information Technology	F	NR	X		
ALKİM ALKALİ KİMYA A.Ş.	Materials	F	DP	NR		
ANADOLU CAM SANAYİ A.Ş. (T.Şişe ve Cam Fabrikaları A.Ş.)	Materials		SA	SA	X	
ANADOLU EFES BİRACILIK VE MALT SANAYİİ A.Ş.	Consumer Staples	F	NR	DP		
ANADOLU HAYAT EMEKLİLİK A.Ş.	Financials	F	NR	NR		
ARÇELİK A.Ş.	Consumer Discretionary	A	AQ	AQ	Public	1 2 3
ASELSAN ELEKTRONİK SANAYİ VE TİCARET A.Ş.	Industrials	B	AQ	AQ	Public	1 2 3
ASLAN ÇİMENTO A.Ş.	Materials	F	NR	X		
AVİVASA EMEKLİLİK VE HAYAT A.Ş. (Aviva PLC)	Financials		SA	X	X	
AYGAZ A.Ş.	Utilities	F	NR	NR		
BAGFAŞ BANDIRMA GÜBRE FABRİKALARI A.Ş.	Materials	D	AQ	DP	Private	1 2
BEŞİKTAŞ FUTBOL YATIRIMLARI SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	F	NR	NR		
BİM BİRLEŞİK MAĞAZALAR A.Ş.	Consumer Staples	F	NR	DP		
BİZİM TOPTAN SATIŞ MAĞAZALARI A.Ş.	Consumer Staples	F	NR	NR		
BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş.	Materials	F	NR	NR		
BRISA BRIDGESTONE SABANCI LASTİK SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	A-	AQ	AQ	Public	1 2 3
CARREFOURSA CARREFOUR SABANCI TİCARET MERKEZİ A.Ş.	Consumer Staples	F	NR	X		
COCA-COLA İÇECEK A.Ş.	Consumer Staples	A-	AQ	AQ	Public	1 2 3
ÇELEBİ HAVA SERVİSİ A.Ş.	Industrials	D	AQ	AQ	Private	1 2
ÇİMSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	Materials	A-	AQ	AQ	Public	1 2 3
DENİZBANK A.Ş.	Financials	F	NR	X		

Company	Sector	2016 Score	2016 Response Status	2015 Response Status	Permission Status	Disclosed Emissions
<b>BIST 100 COMPANIES</b>						
DEVA HOLDİNG A.Ş.	Financials	F	NR	X		
DOĞAN ŞİRKETLER GRUBU HOLDİNG A.Ş.	Industrials	D	AQ	AQ	Private	
DOĞUŞ OTOMOTİV SERVİS VE TİCARET A.Ş.	Consumer Discretionary	F	NR	NR		
EGE ENDÜSTRİ VE TİCARET A.Ş.	Consumer Discretionary	F	NR	NR		
EİS ECZACIBAŞI İLAÇ, SINAI VE FİNANSAL YATIRIM SAN. VE TİC. A.Ş.	Health Care	F	NR	NR		
EMLAK KONUT GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	Financials	F	NR	X		
ENKA İNŞAAT VE SANAYİ A.Ş.	Industrials	F	NR	NR		
EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş.	Materials	F	DP	DP		
FENERBAHÇE SPORTİF HİZMETLER SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	F	NR	NR		
FİNANSBANK A.Ş.	Financials	F	NR	NR		
FORD OTOMOTİV SANAYİ A.Ş.	Consumer Discretionary	D	AQ	NR	Public	1 2
GALATASARAY SPORTİF SINAI VE YATIRIMLAR A.Ş.	Consumer Discretionary	F	NR	NR		
GLOBAL YATIRIM HOLDİNG A.Ş.	Financials	F	NR	X		
GOODYEAR LASTİKLERİ T.A.Ş.	Consumer Discretionary	F	NR	NR		
GÖLTAŞ GÖLLER BÖLGESİ ÇİMENTO SANAYİ VE TİCARET A.Ş.	Materials	F	NR	NR		
GSD HOLDİNG A.Ş.	Financials	F	NR	NR		
GÜBRE FABRİKALARI T.A.Ş.	Materials	F	NR	NR		
İHLAS HOLDİNG A.Ş.	Industrials	F	NR	AQ		
İPEK DOĞAL ENERJİ KAYNAKLARI ARAŞTIRMA VE ÜRETİM A.Ş.	Energy	F	NR	NR		
İZMİR DEMİR ÇELİK SANAYİ A.Ş.	Materials	F	NR	NR		
KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş.	Materials	F	DP	AQ		
KARSAN OTOMOTİV SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	F	DP	DP		
KARTONSAN KARTON SANAYİ VE TİCARET A.Ş.	Materials	F	DP	DP		
KENT GIDA MADDELERİ SANAYİ VE TİCARET A.Ş.	Consumer Staples	F	NR	X		
KOÇ HOLDİNG A.Ş.	Industrials	F	NR	NR		
KONYA ÇİMENTO SANAYİ A.Ş.	Materials	F	NR	NR		
KORDSA GLOBAL ENDÜSTRİYEL İPLİK VE KORD BEZİ SAN. VE TİC. A.Ş.	Consumer Discretionary	D	AQ	X	Public	1
KOZA ALTIN İŞLETMELERİ A.Ş.	Materials	F	NR	NR		
KOZA ANADOLU METAL MADENCİLİK İŞLETMELERİ A.Ş.	Materials	F	NR	NR		
LOGO YAZILIM SANAYİ VE TİCARET A.Ş.	Information Technology	F	NR	DP		
METRO TİCARİ VE MALİ YATIRIMLAR A.Ş.	Consumer Staples	F	NR	NR		

Company	Sector	2016 Score	2016 Response Status	2015 Response Status	Permission Status	Disclosed Emissions
<b>BIST 100 COMPANIES</b>						
MİGROS TİCARET A.Ş.	Consumer Staples	A-	AQ	AQ	Public	1 2 3
NET TURİZM TİCARET VE SANAYİ A.Ş.	Consumer Discretionary	F	NR	NR		
NETAŞ TELEKOMÜNİKASYON A.Ş.	Information Technology	D	AQ	AQ	Private	1 2 3
ODAŞ ELEKTRİK ÜRETİM SANAYİ TİCARET A.Ş.	Utilities	F	NR	X		
OTOKAR OTOMOTİV VE SAVUNMA SANAYİ A.Ş.	Industrials	F	DP	NR		
PARK ELEKTRİK ÜRETİM MADENCİLİK SANAYİ VE TİCARET A.Ş.	Materials	F	NR	NR		
PARSAN MAKİNA PARÇALARI SANAYİİ A.Ş.	Consumer Discretionary	F	NR	X		
PEGASUS HAVA TAŞIMACILIĞI A.Ş.	Industrials	B	AQ	AQ	Public	1 2
PETKİM PETROKİMYA HOLDİNG A.Ş.	Materials	F	NR	DP		
SABANCI HOLDİNG A.Ş.	Financials	B	AQ	AQ	Private	1 2 3
SODA SANAYİ A.Ş. (T.Şişe ve Cam Fabrikaları A.Ş.)	Materials		SA	SA	X	
ŞEKERBANK T.A.Ş.	Financials	B	AQ	AQ	Public	1 2 3
T. İŞ BANKASI A.Ş.	Financials	F	NR	DP		
▼ T.GARANTİ BANKASI A.Ş.	Financials	A	AQ	AQ	Public	1 2 3
T.SINAI KALKINMA BANKASI A.Ş.	Financials	B	AQ	AQ	Public	1 2 3
T.ŞİŞE VE CAM FABRİKALARI A.Ş.	Industrials	B	AQ	AQ	Public	1 2
TAT GIDA SANAYİ A.Ş.	Consumer Staples	F	NR	DP		
TAV HAVALİMANLARI HOLDİNG A.Ş.	Industrials	C	AQ	AQ	Public	1 2 3
TEKFEN HOLDİNG A.Ş.	Industrials	F	NR	NR		
TEKNOSA İÇ VE DIŞ TİCARET A.Ş.	Consumer Discretionary	F	NR	NR		
TESCO KİPA	Consumer Staples	F	NR	SA		
TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş.	Consumer Discretionary	A-	AQ	AQ	Public	1 2 3
TRAKYA CAM SANAYİİ A.Ş. (T.Şişe ve Cam Fabrikaları A.Ş.)	Industrials		SA	SA	X	
TURKCELL İLETİŞİM HİZMETLERİ A.Ş.	Telecommunication Services	B	AQ	AQ	Public	1 2 3
TÜMOSAN MOTOR VE TRAKTÖR SANAYİ A.Ş.	Industrials	D-	AQ	NR	Public	1
TÜPRAŞ TÜRKİYE PETROL RAFİNERİLERİ A.Ş.	Energy	F	NR	NR		
TÜRK HAVA YOLLARI A.O.	Industrials	F	NR	NR		
TÜRK TELEKOMÜNİKASYON A.Ş.	Telecommunication Services	F	NR	NR		
TÜRK TRAKTÖR VE ZİRAAT MAKİNELERİ A.Ş.	Industrials	F	NR	NR		
TÜRK TUBORG BİRA VE MALT SANAYİİ A.Ş.	Consumer Staples	F	DP	NR		
TÜRKİYE HALK BANKASI A.Ş.	Financials	B	AQ	AQ	Public	1 2 3

Company	Sector	2016 Score	2016 Response Status	2015 Response Status	Permission Status	Disclosed Emissions
<b>BIST 100 COMPANIES</b>						
TÜRKİYE VAKIFLAR BANKASI T.A.O.	Financials	B	AQ	AQ	Public	1 2 3
ÜLKER BİSKÜVİ SANAYİ A.Ş.	Consumer Staples	C	AQ	NR	Private	1 2 3
VESTEL BEYAZ EŞYA SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	D	AQ	AQ	Private	1 2 3
VESTEL ELEKTRONİK SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	B	AQ	AQ	Public	1 2 3
YAPI VE KREDİ BANKASI A.Ş.	Financials	C	AQ	NR	Public	1 2
YAZICILAR HOLDİNG A.Ş.	Industrials	F	NR	NR		
ZORLU ENERJİ ELEKTRİK ÜRETİM A.Ş.	Utilities	B	AQ	AQ	Public	1 2 3
<b>NON-BIST 100 COMPANIES</b>						
AROMSA BESİN AROMA VE KATKI MALZEMELERİ A.Ş.	Consumer Discretionary	C	AQ	X	Private	1 2 3
DURAN DOĞAN BASIM VE AMBALAJ A.Ş.	Materials	C	AQ	AQ	Private	1 2 3
EKOTEN TEKSTİL SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	A-	AQ	AQ	Public	1 2 3
HAVAALANLARI YER HİZMETLERİ A.Ş. (HAVAŞ)	Industrials	D	AQ	AQ	Public	1 2
İHLAS EV ALETLERİ İMALAT SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	D	AQ	AQ	Public	1 2
MONDİ TİRE KUTSAN KAĞIT VE AMB. SAN. A.Ş. (Mondi PLC)	Materials		SA	SA	X	
OMV PETROL OFİSİ A.Ş. (OMV)	Energy		SA	SA	X	
PINAR SÜT MAMULLERİ SANAYİ A.Ş.	Consumer Staples	A-	AQ	AQ	Private	1 2 3
SUN TEKSTİL SANAYİ VE TİCARET A.Ş. (Ekoten Tekstil)	Consumer Discretionary		SA	SA	X	
TÜRKİYE KALKINMA BANKASI A.Ş.	Financials	NE	AQ	X	Public	1 2 3
YÜNİSA YÜNLÜ SANAYİ VE TİCARET A.Ş.	Consumer Discretionary	B	AQ	AQ	Public	1 2 3
ZORLU DOĞAL ELEKTRİK ÜRETİM A.Ş.	Utilities	B	AQ	AQ	Public	1 2

## KEY TO RESPONSE STATUS TABLE

(AQ) Answered questionnaire

(NR) No response

(DP) Declined to Participate

(F) Failure to Disclose

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

(SA) Company is either a subsidiary or has merged during the reporting process. See company in brackets for further information on company status

(NE) Not eligible for scoring as being the first time self-selected responder

1 Disclosed Scope 1 Emissions

2 Disclosed Scope 2 Emissions

3 Disclosed Scope 3 Emissions

▲ A List Company

## 2016 key trends

**The statistics presented in this key trends table may differ from those in other CDP reports for two reasons: (1) the data in this table is based on all responses received by 13 September 2016; (2) it is based on binary data (e.g. Yes/No or other drop down menu selection) reported to CDP and does not incorporate any validation of the follow up information provided or reflect the scoring methodology. The latter, in particular, is likely to lead to an over-reporting of data in this key trends table.**

Statistic	Hong Kong & SE Asia	Australia ASX 200	Benelux	Brazil	Canada	Central Eastern Europe	China	DACH (DE, AU, CH)	Emerging Markets
Number of companies in the sample	170	200	150	120	200	100	100	350	800
Number of companies answering CDP <sup>1</sup>	59	86	57	67	97	17	10	155	309
% of sample answering CDP 2016 <sup>1</sup>	35	43	38	56	49	17	10	45	39
% of sample market capitalization answering CDP 2016 <sup>2</sup>	46	80	85	90	72	33	20	85	43
% of responders reporting Board or other senior management responsibility for climate change	100	100	96	85	91	50	100	93	97
% of responders with incentives for the management of climate change issues	75	70	86	67	73	37	80	70	80
% of responders reporting climate change as being integrated into their business strategy	96	89	88	78	88	87	100	84	96
% of responders reporting engagement with policymakers on climate issues to encourage mitigation or adaptation	90	79	90	82	90	75	90	80	90
% of responders with emissions reduction targets <sup>3</sup>	77	60	81	60	64	37	50	68	80
% of responders reporting absolute emission reduction targets <sup>3</sup>	50	36	58	40	37	25	40	41	49
% of responders reporting intensity emission reduction targets <sup>3</sup>	56	37	48	38	38	25	30	51	52
% of responders reporting active emissions reduction initiatives in the reporting year	94	85	96	72	88	87	90	90	91
% of responders indicating that their products and services directly enable third parties to avoid GHG emissions	73	60	65	60	57	50	90	64	65
% of responders whose absolute emissions (Scope 1 and 2) have decreased compared to last year due to emission reduction activities	56	67	73	57	68	75	20	69	65
% of responders seeing regulatory risks	85	84	87	78	88	75	90	71	89
% of responders seeing regulatory opportunities	83	78	77	75	79	50	100	80	86
% of responders seeing physical risks	90	80	83	78	82	50	70	65	88
% of responders seeing physical opportunities	69	66	56	65	64	75	50	59	74
% of responders independently verifying any portion of Scope 1 emissions data <sup>4</sup>	50	52	58	50	41	37	20	52	62
% of responders independently verifying any portion of Scope 2 emissions data <sup>4</sup>	52	49	52	52	33	25	20	47	60
% of responders independently verifying least 70% of scope 1 emissions data <sup>4</sup>	42	47	54	48	30	37	20	48	56
% of responders independently verifying least 70% of scope 2 emissions data <sup>4</sup>	42	42	52	48	28	25	20	41	52
% of responders reporting scope 2 location-based emissions data	90	93	86	78	94	87	50	79	89
% of responders reporting scope 2 market-based emissions data	21	28	61	30	30	0	10	54	31
% of responders reporting emissions data for 2 or more named Scope 3 categories <sup>5</sup>	38	59	69	75	50	25	30	65	65
% of responders using CDSB framework to report climate change data in mainstream financial report	8	13	25	10	7	12	20	13	18



1 This statistic includes those companies that respond by referencing a parent or holding company's response. However the remaining statistics presented do not include these responses.

2 This refers to the total market capitalization of that sample group of companies. Market cap data sourced from Bloomberg.

3 Companies may report multiple targets. However, in these statistics a company will only be counted once.

4 This takes into account companies reporting that verification is complete or underway, but does not include any evaluation of the verification statement provided.

5 Only companies reporting Scope 3 emissions using the Greenhouse Gas Protocol Scope 3 Standard named categories have been included below. Whilst in some cases "Other upstream" or "Other downstream" are legitimate selections, in most circumstances the data contained in these categories should be allocated to one of the named categories. In addition, only those categories for which emissions figures have been provided have been included.

6 Includes responses across all samples as well as responses submitted by companies not included in specific geographic or industry samples in 2016.

Euro 300	France	UK FTSE 350	Iberia (ES, PT)	India	Ireland	Italy	Japan	Korea	Latin America	New Zealand NZX 50	Nordic	Portugal	Russia	US S&P 500	South Africa	Spain	Turkey	Overall Figure <sup>6</sup>
300	250	350	125	200	30	100	500	200	80	50	260	40	30	500	100	85	100	N/A
262	97	224	53	48	9	45	261	77	41	15	143	10	7	332	77	43	38	2268
88	40	64	42	24	30	45	52	38	51	30	55	25	23	67	78	50	38	N/A
92	83	92	89	46	65	69	72	67	61	79	79	76	39	78	85	91	50	68
99	96	99	98	96	100	93	98	100	97	93	97	100	71	94	100	98	94	95
90	83	80	90	79	89	83	89	88	59	60	73	78	57	82	81	93	82	78
96	93	91	94	96	100	90	96	97	85	93	93	89	100	92	96	95	91	91
94	91	84	96	85	100	88	94	87	79	80	84	89	86	86	92	98	82	86
92	78	80	94	81	78	83	95	90	50	73	80	89	71	80	79	95	76	77
60	40	40	77	23	44	71	68	65	26	33	43	56	43	49	41	81	41	47
69	67	57	65	70	33	52	68	42	35	47	61	67	71	46	51	65	56	52
98	95	93	100	96	89	98	97	90	82	93	89	100	100	97	93	100	85	92
77	73	56	81	57	56	76	81	65	44	47	73	78	57	61	52	81	50	64
87	72	83	92	60	100	76	84	71	44	60	80	89	43	79	74	93	62	86
90	87	95	98	94	89	90	95	99	74	73	89	100	86	81	95	98	85	86
94	91	92	94	89	100	83	93	90	71	73	87	89	71	80	93	95	82	85
89	83	87	89	87	100	81	88	86	88	80	84	89	71	79	96	88	85	82
79	71	75	81	77	89	69	82	78	47	73	82	67	43	65	89	84	71	70
85	80	64	79	53	89	69	37	77	41	47	58	78	0	55	73	79	38	55
83	82	61	71	51	89	62	37	74	41	40	54	78	0	52	70	70	38	52
81	71	59	75	51	89	69	31	67	41	13	56	78	0	51	64	74	35	49
78	71	54	67	45	89	62	29	57	38	20	51	78	0	51	63	65	35	46
92	93	97	79	96	89	88	76	88	85	80	88	56	43	94	97	84	85	88
63	33	47	54	28	56	45	50	30	18	27	58	78	14	48	48	49	23	42
87	70	69	81	68	78	55	82	58	62	73	68	89	0	65	85	79	65	65
23	21	26	23	19	0	7	9	29	6	7	16	22	0	7	33	23	3	14

# We mean business: Commit to action

Companies are taking direct and ambitious action on climate change. More than 490 companies have made commitments to climate action via the We Mean Business commitments platform “Commit to Action,” representing a **tenfold increase** in two years.

Progress in 2016 has remained strong, suggesting a positive response to the Paris Agreement and its universal commitment to a low-carbon economy.

Companies have **been adopting more aggressive targets**—around emissions reductions, renewable energy, deforestation, water, and energy productivity—**and improving operational or governance measures for climate risk** through use a price on carbon, more responsible policy engagement mechanisms, and greater transparency on climate governance in mainstream reports.

Corporate action has grown across all of these issues. The strongest growth has been in companies committing to **science-based emissions reduction targets**, from 50 companies in late 2015 to over 200 today.

## Companies in 42 countries have taken action.

At the beginning of 2015 just 3 **US companies** had made commitments via this platform. By Paris, this number had grown to more than 50 companies. The fastest growing issue with US companies has been science-based targets, with 33 companies making that commitment. Climate action remains popular with **European companies**, with 237 taking action, predominantly in mainstream reporting on climate and science-based target setting.



Setting science based targets is the right thing to do, but also makes perfect business sense. Setting a science-based target directly answered the needs of our customers, all of whom are thinking about their own carbon footprints. It is also critical for investors who need to know that we are thinking of potential risks, in the short-, medium- and long-term.

Laurel Peacock  
Senior Sustainability Manager  
NRG Energy



490+  
Companies



+\$10  
Trillion USD



183  
Investors



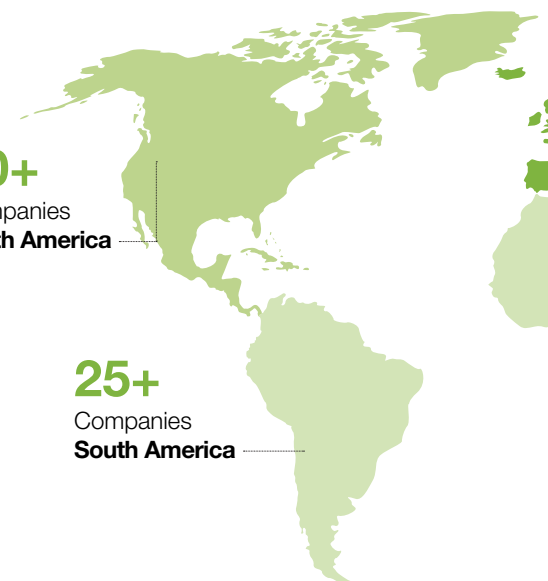
>US\$20.7 Trillion  
Assets Under  
Management



1000+  
Commitments

90+  
Companies  
North America

25+  
Companies  
South America













## WE MEAN BUSINESS

economic opportunity through bold climate action

# Translating Paris into business strategy

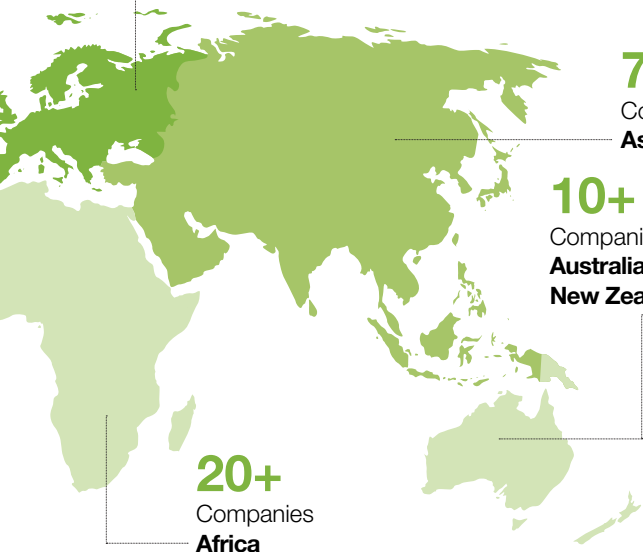
## The Climate Commitments

-  Adopt a science-based emissions reduction target
-  Put a price on carbon
-  100% renewable power
-  Responsible corporate engagement in climate policy
-  Report climate change information in mainstream reports as a fiduciary duty
-  Remove commodity-driven deforestation from all supply chains by 2020
-  Reduce short-lived climate pollutant emissions
-  Improve energy productivity
-  Improve water security
-  Join the Low Carbon Technology Partnerships Initiative (LCTPI)

## Committed Companies in Turkey

- AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. 
- ARÇELİK A.Ş. 
- ÇİMSA ÇİMENTO SANAYİ VE TİCARET A.Ş. 
- ŞEKERBANK T.A.Ş. 
- TAV HAVALİMANLARI HOLDİNG A.Ş. 
- T.GARANTİ BANKASI A.Ş.  
- T.SINAI KALKINMA BANKASI A.Ş.    

**235+**  
Companies  
Europe



# The Climate A list 2016

Company	Country
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## Consumer Discretionary

ARÇELİK A.Ş.	Turkey
BMW AG	Germany
Caesars Entertainment	USA
Daimler AG	Germany
Electrolux	Sweden
Fiat Chrysler Automobiles NV	Italy
Gap Inc.	USA
General Motors Company	USA
Groupe PSA	France
Hyundai Motor Co	South Korea
Inditex	Spain
Johnson Controls	USA
Las Vegas Sands Corporation	USA
LG Electronics	South Korea
Michelin	France
Nissan Motor Co., Ltd.	Japan
RELX Group	United Kingdom
Renault	France
Sky plc	United Kingdom
Sony Corporation	Japan
Sumitomo Forestry Co., Ltd.	Japan
Toyota Motor Corporation	Japan
TUI Group	United Kingdom
Yokohama Rubber Company, Limited	Japan

## Consumer Staples

Asahi Group Holdings, Ltd.	Japan
Coca-Cola European Partners*	USA
Coca-Cola HBC AG	Switzerland
Colgate Palmolive Company	USA
Diageo Plc	United Kingdom
Japan Tobacco Inc.	Japan
Kirin Holdings Co Ltd	Japan
L'Oréal	France
Nestlé	Switzerland
Philip Morris International	USA
Pick 'n Pay Stores Ltd	South Africa
RCL Foods Ltd	South Africa

\*Data provided in response relates to Coca-Cola Enterprises, prior to merger with Coca-Cola European Partners.

Company	Country
---------	---------

Reynolds American Inc.	USA
SCA	Sweden
Tesco	United Kingdom
Unilever plc	United Kingdom

## Energy

Compañía Española de Petróleos, S.A.U. CEPSA	Spain
Eni SpA Limited	Italy
Galp Energia SGPS SA	Portugal
Neste Corporation	Finland
Vermilion Energy Inc.	Canada

## Financials

Bank Coop AG	Switzerland
Basler Kantonalbank	Switzerland
BNY Mellon	USA
British Land Company	United Kingdom
Caixa Geral de Depósitos	Portugal
CaixaBank	Spain
Daito Trust Construction Co., Ltd.	Japan
Dexus Property Group	Australia
Goldman Sachs Group Inc.	USA
Great-West Lifeco Inc.	Canada
Host Hotels & Resorts, Inc.	USA
HSBC Holdings plc	United Kingdom
ICADE	France
ING Group	Netherlands
Intesa Sanpaolo S.p.A	Italy
Klepierre	France
Lloyds Banking Group	United Kingdom
Macerich Co.	USA
MAPFRE	Spain
National Australia Bank	Australia
Nedbank Limited	South Africa
Raiffeisen Bank International AG	Austria
Remgro	South Africa
Shinhan Financial Group	South Korea
Sompo Japan Nipponkoa Holdings, Inc	Japan
Stockland	Australia

Company	Country
T.GARANTİ BANKASI A.Ş.	Turkey
The Dai-ichi Life Insurance Company, Limited	Japan
UBS	Switzerland
Westpac Banking Corporation	Australia

### Health Care

AstraZeneca	United Kingdom
Bayer AG	Germany
GlaxoSmithKline	United Kingdom
Lundbeck A/S	Denmark
Mediclinic International	South Africa
Novo Nordisk A/S	Denmark
Roche Holding AG	Switzerland

### Industrials

Abengoa	Spain
Abertis Infraestructuras	Spain
Bic	France
Bouygues	France
Canadian National Railway Company	Canada
CNH Industrial NV	United Kingdom
Ecorodovias Infraestrutur e Logística S.A	Brazil
FERROVIAL	Spain
Grupo Logista	Spain
Huber + Suhner AG	Switzerland
Hyundai E&C	South Korea
INDUS Holding AG	Germany
Kajima Corporation	Japan
Kawasaki Kisen Kaisha, Ltd.	Japan
Kingspan Group PLC	Ireland
Komatsu Ltd.	Japan
Kone Oyj	Finland
Lockheed Martin Corporation	USA
Mitsubishi Electric Corporation	Japan
Nabtesco Corporation	Japan
Obrascon Huarte Lain (OHL)	Spain
Owens Corning	USA
Qantas Airways	Australia
Republic Services, Inc.	USA

Company	Country
Royal BAM Group nv	Netherlands
Royal Philips	Netherlands
Salini Impregilo S.p.A.	Italy
Samsung C&T	South Korea
Samsung Engineering	South Korea
Schneider Electric	France
Secom Co., Ltd.	Japan
SGS SA	Switzerland
Skanska AB	Sweden
Stanley Black & Decker, Inc.	USA
Taisei Corporation	Japan
Toda Corporation	Japan
Toshiba Corporation	Japan
Union Pacific Corporation	USA
Valmet	Finland
Waste Management, Inc.	USA

### Information Technology

Accenture	Ireland
Advanced Semiconductor Engineering	Taiwan
Alphabet, Inc.	USA
Amadeus IT Holding	Spain
Apple Inc.	USA
Atos SE	France
Autodesk, Inc.	USA
Canon Inc.	Japan
Cisco Systems, Inc.	USA
EMC Corporation	USA
EVERY ASA	Norway
Hewlett-Packard	USA
Konica Minolta, Inc.	Japan
LG Display	South Korea
LG Innotek	South Korea
Microsoft Corporation	USA
Oracle Corporation	USA
Samsung Electronics	South Korea
Tech Mahindra	India
Wipro	India

Company	Country
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### Materials

AkzoNobel	Netherlands
Anglo American Platinum	South Africa
BillerudKorsnäs	Sweden
Braskem S/A	Brazil
Gold Fields Limited	South Africa
Harmony Gold Mining Co Ltd	South Africa
HeidelbergCement AG	Germany
International Flavors & Fragrances Inc.	USA
Koninklijke DSM	Netherlands
Kumba Iron Ore	South Africa
LANXESS AG	Germany
LG Chem Ltd	South Korea
Metsä Board	Finland
Mondi PLC	United Kingdom
Novozymes A/S	Denmark
Praxair, Inc.	USA
Sealed Air Corp.	USA
Sibanye Gold Ltd	South Africa
Stora Enso Oyj	Finland
Symrise AG	Germany
The Mosaic Company	USA
ThyssenKrupp AG	Germany
UPM-Kymmene Corporation	Finland

### Telecommunication Services

China Mobile	China
Deutsche Telekom AG	Germany
Koninklijke KPN NV (Royal KPN)	Netherlands
KT Corporation	South Korea
LG Uplus	South Korea
Proximus	Belgium
Swisscom	Switzerland
Telefonica	Spain
Telstra Corporation	Australia

### Utilities

ACCIONA S.A.	Spain
Centrica	United Kingdom

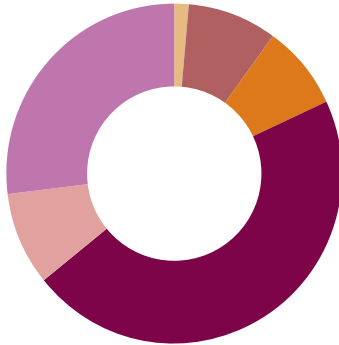
Company	Country
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EDF	France
EDP - Energias de Portugal S.A.	Portugal
ENAGAS	Spain
ENEL SpA	Italy
ENGIE	France
Gas Natural SDG SA	Spain
Iberdrola SA	Spain
Iren SpA	Italy
Korea District Heating Corp.	South Korea
Korea Electric Power Corp	South Korea
National Grid PLC	United Kingdom
PG&E Corporation	USA
R.E.E.	Spain
Snam S.P.A	Italy
Suez Environnement	France
VEOLIA	France
VERBUND AG	Austria



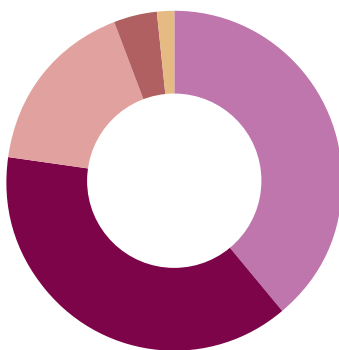
# Investor signatories and members

## 1. Investor signatories by location



- Europe - 382 = 46%
- North America - 223 = 27%
- Latin America & Caribbean - 73 = 9%
- Asia - 71 = 9%
- Australia and NZ - 67 = 8%
- Africa - 13 = 1%

## 2. Investor signatories by type



- Asset Managers - 363 = 40%
- Asset Owners - 256 = 30%
- Banks - 158 = 19%
- Insurance - 39 = 5%
- Others - 13 = 2%

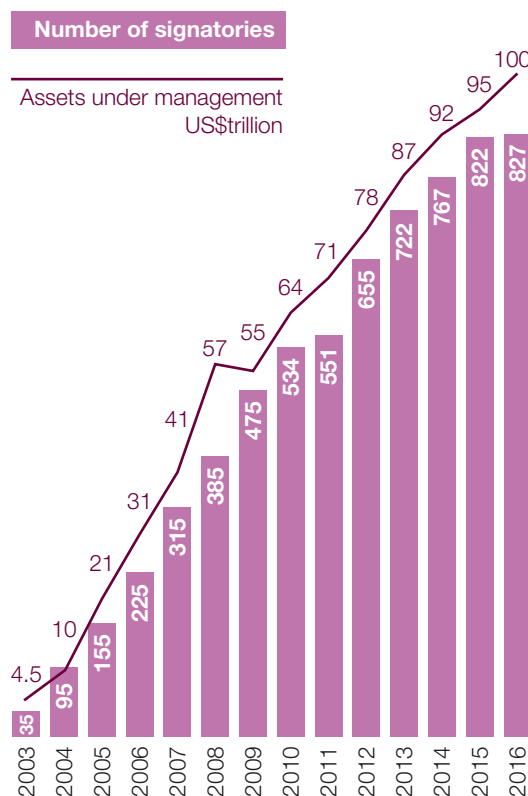
**CDP's investor program – backed in 2016 by 827 institutional investor signatories representing in excess of US\$100 trillion in assets – works with investors to understand their data and analysis requirements and offers tools and solutions to help them.**

Our global data from companies and cities in response to climate change, water insecurity and deforestation and our award-winning investor research series is driving investor decision-making. Our analysis helps investors understand the risks they run in their portfolios. Our insights shape engagement and add value not only in financial returns but by building a more sustainable future.

**For more information about the CDP investor program, including the benefits of becoming a signatory or member please visit: <https://www.cdp.net/Documents/Brochures/investor-initiatives-brochure-2016.pdf>**

**To view the full list of investor signatories please visit: <https://www.cdp.net/en-US/Programmes/Pages/Sig-Investor-List.aspx>**

## 3. Investor signatories over time



## Investor members

- ABRAPP - Associação Brasileira das Entidades Fechadas de Previdência Complementar
- ACTIAM
- AEGON N.V.
- Allianz Global Investors
- ATP Group
- Aviva Investors
- AXA Group
- Bank of America Merrill Lynch
- Bendigo and Adelaide Bank
- BlackRock
- Boston Common Asset Management, LLC
- BP Investment Management Limited
- British Columbia Investment Management Corporation
- California Public Employees' Retirement System
- California State Teachers' Retirement System
- Calvert Investment Management, Inc
- Capricorn Investment Group
- Catholic Super
- CCLA Investment Management Ltd
- DEXUS Property Group
- Etica SGR
- Fachesf
- FAPES
- Fundação Itaú Unibanco
- Generation Investment Management
- Goldman Sachs Asset Management
- Henderson Global Investors
- Hermes Fund Managers
- HSBC Holdings plc
- Infraprev
- KeyCorp
- KLP
- Legg Mason, Inc.
- London Pensions Fund Authority
- Maine Public Employees Retirement System
- Morgan Stanley
- National Australia Bank
- NEI Investments
- Neuberger Berman
- New York State Common Retirement Fund
- Nordea Investment Management
- Norges Bank Investment Management
- Overlook Investments Limited
- PFA Pension
- POSTALIS - Instituto de Seguridade Social dos Correios e Telégrafos
- PREVI
- Rathbone Greenbank Investments
- Real Grandeza
- Robeco
- RobecoSAM AG
- Rockefeller & Co.
- Royal Bank of Canada
- Sampension KP Livsforsikring A/S
- Schroders
- SEB AB
- Sompo Japan Nipponkoa Holdings, Inc
- Sustainable Insight Capital Management
- TIAA
- Terra Alpha Investments LLC
- The Sustainability Group
- The Wellcome Trust
- UBS
- University of California
- University of Toronto
- Whitley Asset Management

# Climate Change and Sabancı University

Universities need to embrace the emerging function of social outreach and engagement in addressing the grand challenges and immediate threats faced by the societies around the world, while performing their traditional functions, that is formal education and scientific research. Climate change is one of

those grand challenges that cross-cuts faculties and disciplines. Sabancı University strives to engage with the relevant stakeholders; the businesses, non-governmental organizations, policy makers and the society to facilitate a cross-sectoral approach to address climate change based on science.

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“Predictions made within the reports of the Intergovernmental Panel on Climate Change (IPCC) reveal that most of the probable scenarios show that a 2.0°C increase in global average temperature is inevitable. Carbon intensive sectors requires a special focus. For example, transport is the sector which has seen the highest increase in GHG emissions over recent decades. With 14% of total emissions, ascertaining the current situation of the transportation sector and making scenario analyses by drawing emission projections is extremely important. This prompted our Operations Management scholars to focus on creating awareness on the impact of transport on climate change. Our research reveals the basic factors related to GHG emissions of different transport modes and provide a road map to the policy makers in order to develop mitigation strategies. Our faculty will continue to provide evidence based insights in order to facilitate management of climate change risks and opportunities.”

**Prof. Dr. Füsün Ülengin, Acting Dean, School of Management, Sabancı University**

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“Energy/climate research has become a top priority in our research agenda. Sabancı University FENS faculty members have been contributing to the global fight against climate change with projects on energy storage, renewable technologies, energy efficiency in buildings, and green logistics, to name a few. The heightened emphasis on sustainability is also reflected in our course curricula. We aim to train the next generation of scientists and engineers with a comprehensive understanding of sustainability issues.”

**Prof. Dr. Yusuf Z. Menceloğlu, Acting Dean, Faculty of Engineering and Natural Sciences, Sabancı University**

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“Climate change occupies an important place in the research and teaching activities as well as artistic production of the Faculty of Arts and Social Sciences. We are currently engaged in a multi-country European project on low carbon cities and energy use. We have several research projects and courses on the economics, politics and regulation of energy and climate change where European renewables and de-carbonization policies are important cross-running themes. How climate change policy affects international negotiation and states’ foreign policy choices is also an important theme covered in many of our courses.”

**Prof. Dr. Özgür Kıbrıs, Vice Dean, Faculty of Arts and Social Sciences, Sabancı University**

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“The Paris accord creates a number of fundamental challenges as well as opportunities for economies worldwide. On the one hand it creates challenges for industries that rely directly or indirectly on fossil fuels. At the same time it creates opportunities for innovation and new technologies as well as new jobs and new sources of competitiveness. Whether these opportunities will be realized will depend critically on public policies, that is, on whether policies and regulations will be implemented so as to create clear and consistent signals for reorienting corporate strategies and investments. For the case of Turkey, this will mean a significant overhaul of its development and energy strategies. Delayed response to the challenges will ultimately create additional costs in terms of economic growth and competitiveness.”

**Prof. Dr. İzak Atiyas, Sabancı University Competitiveness Forum (REF)**

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“Through research and policy advocacy, IPC aims to create awareness of the urgency of climate change among policy makers and the broader public and to give clearly defined policy advice to decision makers. Our key focus is on the challenges resulting from climate change as well as on the possible benefits for national economies to invest in green technologies and renewable energies. IPC also contributes to FASS course curricula with a course on global climate change and environmental politics.”

**Prof. Dr. Fuat Keyman, Director, Istanbul Policy Center, Sabancı University**

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OF TURKEY

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Main Sponsor



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Scoring and Report Writing Partner



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