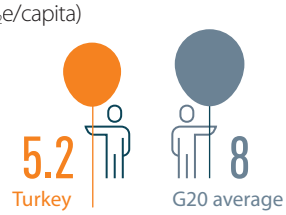
Climate Transparency

# BROWN TO GREEN:
## THE G20 TRANSITION TO A LOW-CARBON ECONOMY | 2018

# TURKEY

GREENHOUSE GAS (GHG) EMISSIONS (INCL. FORESTRY) PER CAPITA
($tCO_2e$/capita)



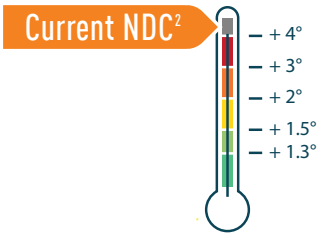

*Data from 2015 | Source: PRIMAP 2018*

**The gap:**
Is Turkey on track to stay below the Paris Agreement temperature limit?

Based on implemented policies, Turkey's **GHG emissions** are projected to increase to around 959 to 1,075 $MtCO_2e$ in 2030 (excl. forestry). This emission pathway is not compatible with the Paris Agreement.[1]

Turkey's **NDC** is not consistent with the Paris Agreement's temperature limit but would lead to a warming of more than 4°C.[2]

Turkey's sectoral **policies** still fall short of being consistent with the Paris Agreement, especially with respect to its plans to open new coal plants.[3]




*Source: CAT 2018*

**Recent developments:**
What has happened since the Paris conference?

One of the goals in Turkey's Strategic Plan 2015–2019 is to increase the annual electricity generation from domestic coal by 54% above 2012 levels by 2019.

With Russia, Turkey is one of only two G20 countries that has not ratified the Paris Agreement.

The government has committed to invest almost US$11bn in energy efficiency measures set out by the National Energy Efficiency Action Plan.

**Brown and green performance:**
Where does Turkey lead or lag compared to G20 countries?

SHARE OF FOSSIL FUELS IN ENERGY SUPPLY


G20 average: 82 %

*Data from 2017 | Source: Enerdata 2018*

2012-2017 TREND IN TRANSPORT EMISSIONS PER CAPITA
($tCO_2$/capita)


G20 average: + 5%

*Data from 2017 | Source: Enerdata 2018*

SHARE OF RENEWABLES IN POWER GENERATION
(incl. large hydro)


G20 average: 24 %

*Data from 2017 | Source: Enerdata 2018*

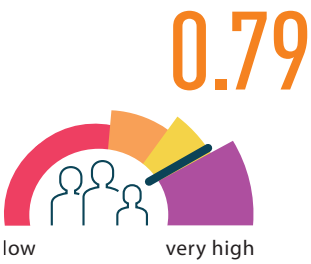
This country profile is part of the **Brown to Green 2018** report. The full report and other G20 country profiles can be downloaded at: ***http://www.climate-transparency.org/g20-climate-performance/g20report2018***

# BACKGROUND INDICATORS: TURKEY

## GDP PER CAPITA[4]
(PPP US$ const. 2015, international)


*Source: World Bank 2017*

## HUMAN DEVELOPMENT INDEX[5]




*Data from 2017 | Source: UNDP 2018*

# TURKEY'S EXPOSURE TO CLIMATE IMPACTS[6]

This indicator shows the extent to which human society and its supporting sectors are affected by the future changing climate conditions based on an approximately 2°C scenario. This sectoral exposure will be even higher given that the efforts depicted in current NDCs will lead to an approximately 3°C scenario.

## FOOD

Projected climate impacts on cereal yields


Projected increase of food demand due to population growth


## WATER

Projected climate impacts on annual run-off


Projected climate impacts on annual groundwater recharge


## HEALTH

Projected climate impacts on a spread of malnutrition and diarrhoeal diseases


Projected climate impacts on spread of vector-borne diseases


## ECOSYSTEM SERVICE

Projected climate impacts on biomes occupying the countries


Projected climate impacts on marine biodiversity


## HUMAN HABITAT

Projected climate impacts on frequency of high temperature periods


Projected climate impacts on frequency and severity of floods


## INFRASTRUCTURE

Projected climate impacts on hydropower generation capacity

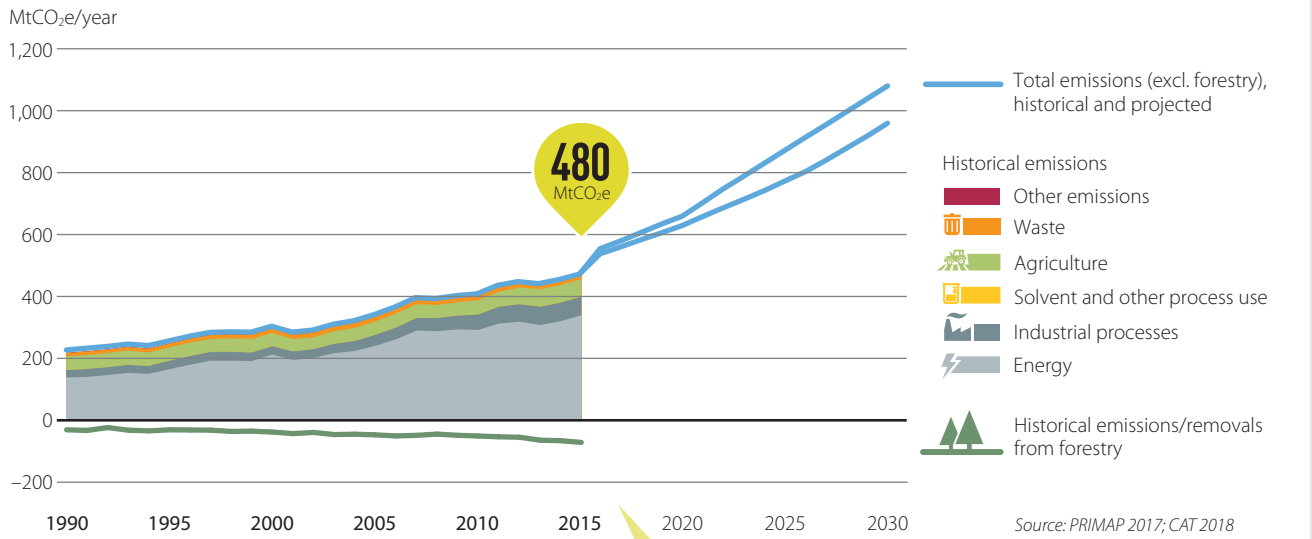

Proportion of coastline impacted by sea level rise


*Own composition based on ND-GAIN 2017 (based on data for 2016)*

# GREENHOUSE GAS (GHG) EMISSIONS

# TURKEY

## TOTAL GHG EMISSIONS ACROSS SECTORS[7]



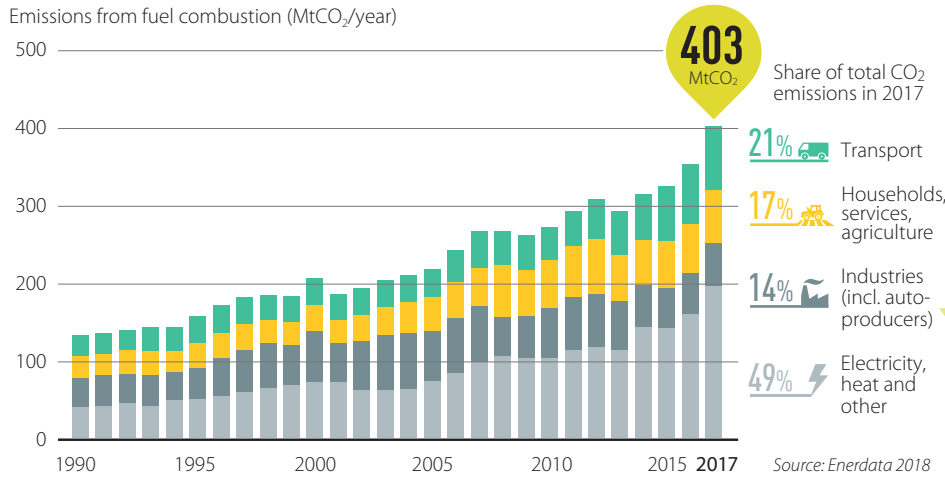

*Source: PRIMAP 2017; CAT 2018*

## CCPI PERFORMANCE RATING OF GHG EMISSIONS PER CAPITA[8]


*Source: CCPI 2018*

Turkey's emissions have increased by 118% between 1990 and 2015 and the trend is expected to pick up speed. The energy sector contributes most to overall emissions.

## ENERGY-RELATED $CO_2$ EMISSIONS[9]



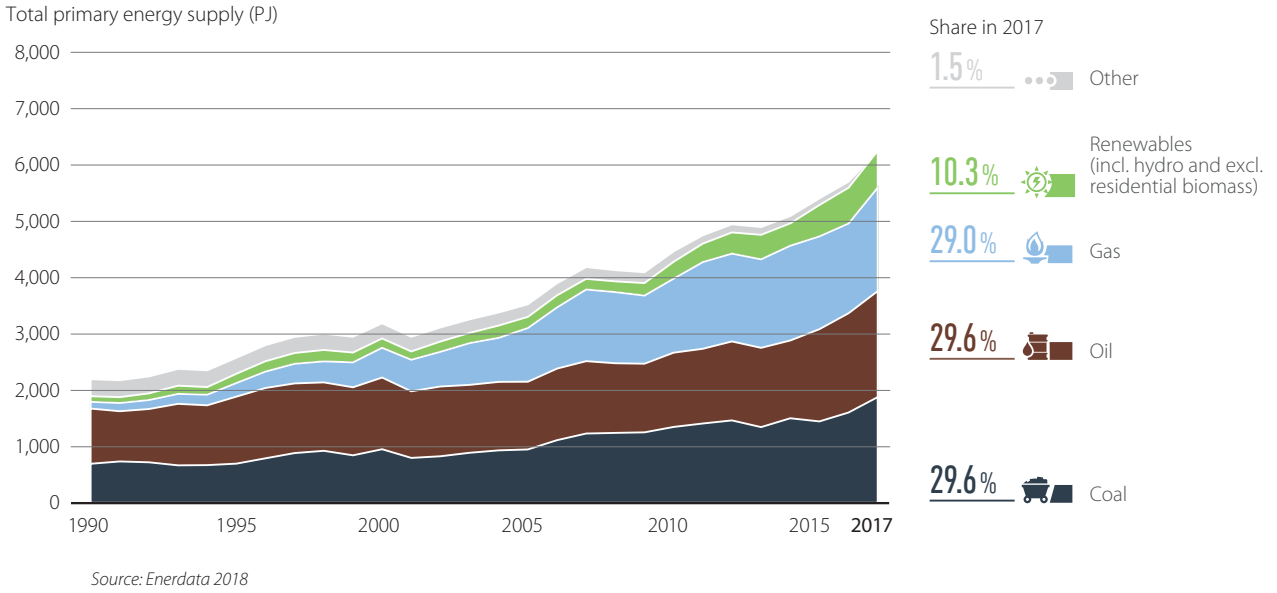

*Source: Enerdata 2018*

The largest contributor for overall GHG emissions are $CO_2$ emissions from energy, which have increased in Turkey by 31% (2012–2017). This was mostly driven by greater emissions from the electricity and heat sector.

# DECARBONISATION

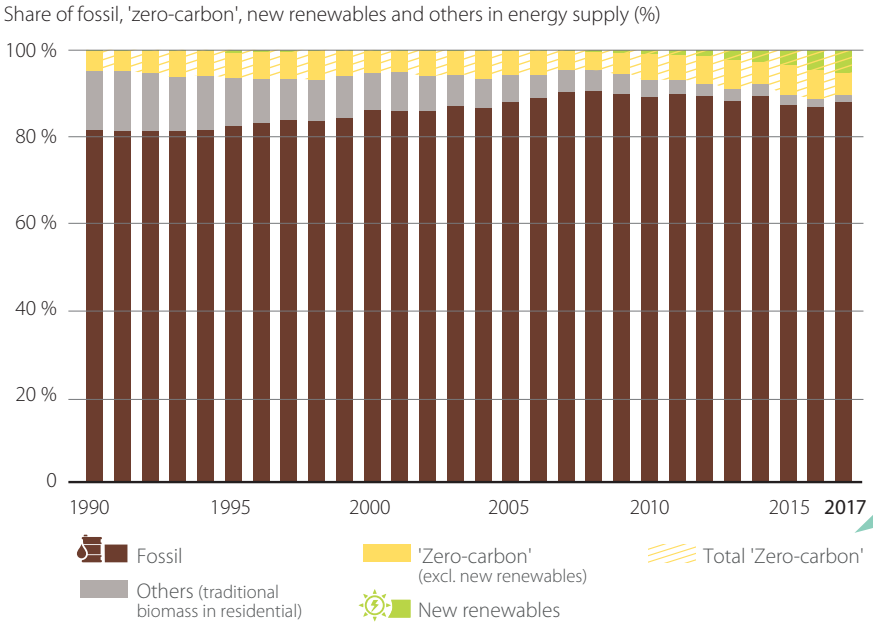
# TURKEY

## ENERGY MIX[10]

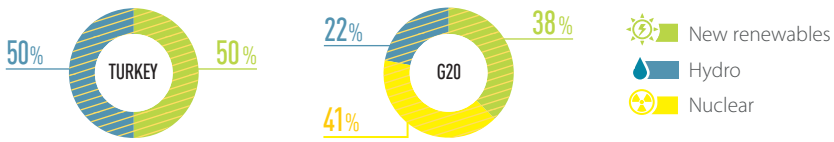



*Source: Enerdata 2018*

## SHARE OF FOSSIL FUELS AND 'ZERO-CARBON' FUELS IN ENERGY SUPPLY[11]

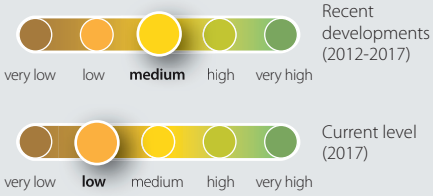



### 'ZERO-CARBON' SHARES




*Source: Enerdata 2018*

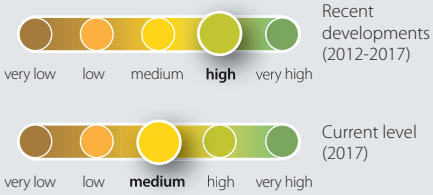
### PERFORMANCE RATING OF SHARE OF FOSSIL FUELS[12]




*Source: own evaluation*

Zero-carbon fuels include nuclear, hydropower, new renewables. Their share in Turkey's energy mix is lower (10%) than the G20 average (14%), but has grown faster (2012–2017).

### PERFORMANCE RATING OF SHARE OF ZERO-CARBON TECHNOLOGY[12]

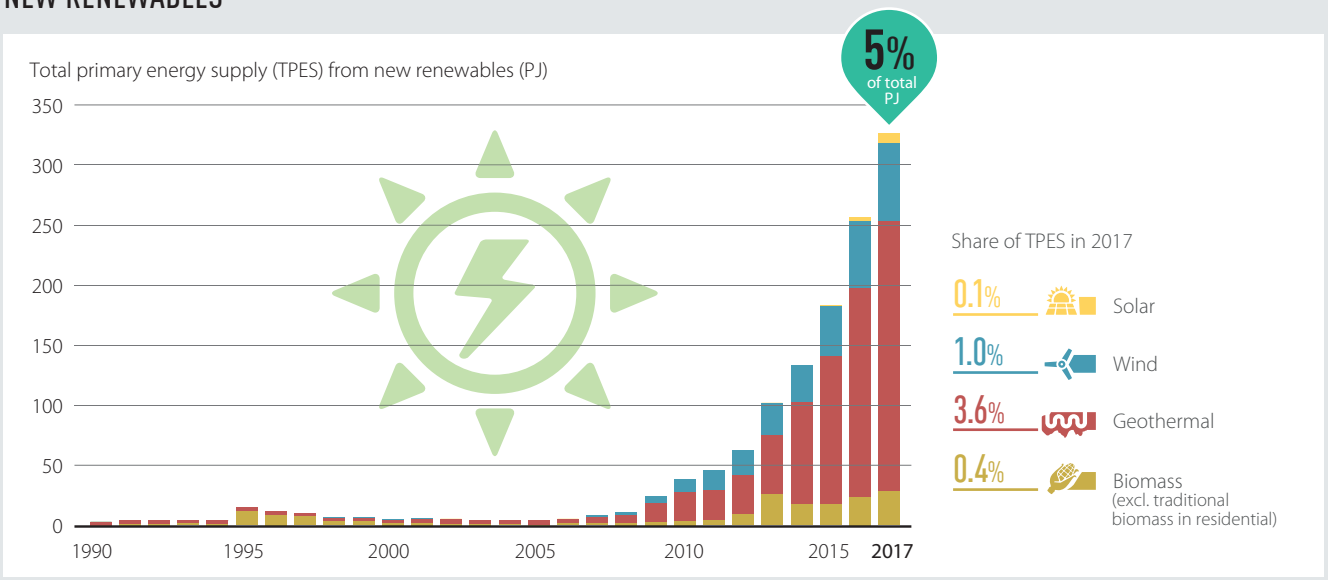



*Source: own evaluation*

# DECARBONISATION

# TURKEY

## NEW RENEWABLES[13]



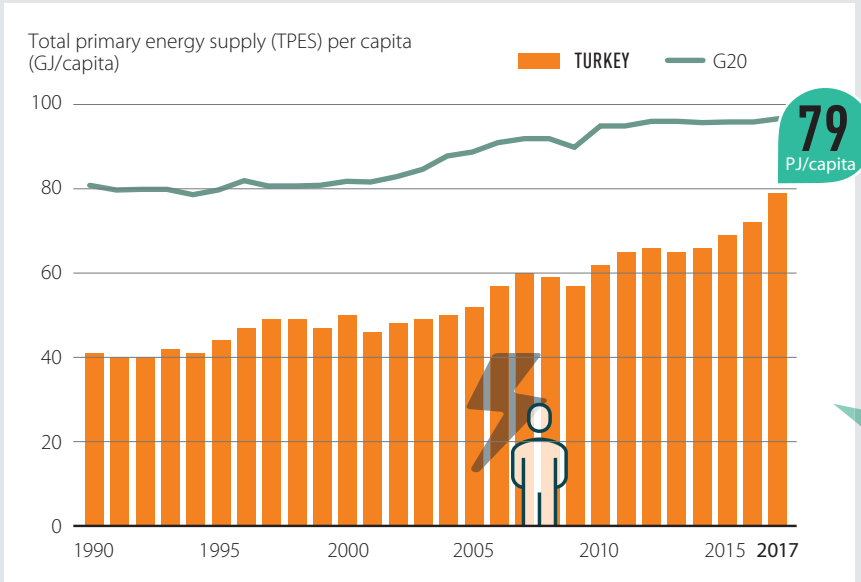

*Source: Enerdata 2018*

"New renewables" excludes unsustainable renewable sources such as large hydropower. The amount of energy from new renewable sources grew exponentially from 3 PJ (1990) to 326 PJ (2017), due to high growth in geothermal energy and increasingly wind. Yet, the share of new renewables in the energy mix has only reached the G20 average (5%).

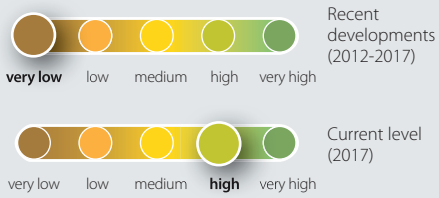
### PERFORMANCE RATING OF NEW RENEWABLES[12]


*Source: own evaluation*

## ENERGY USE PER CAPITA[14]




### PERFORMANCE RATING OF ENERGY USE PER CAPITA[12]




*Source: own evaluation*

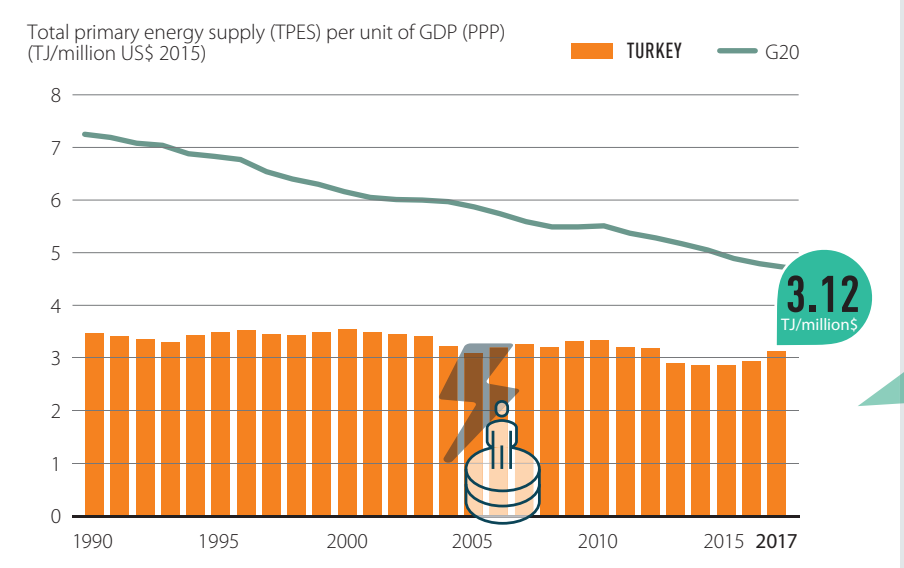
Turkey has seen the highest increase in energy use per capita in the G20 (+18%, 2012-2017). Yet, the level remains below the G20 average.

*Source: Enerdata 2018*

# DECARBONISATION

# TURKEY

## ENERGY INTENSITY OF THE ECONOMY[15]



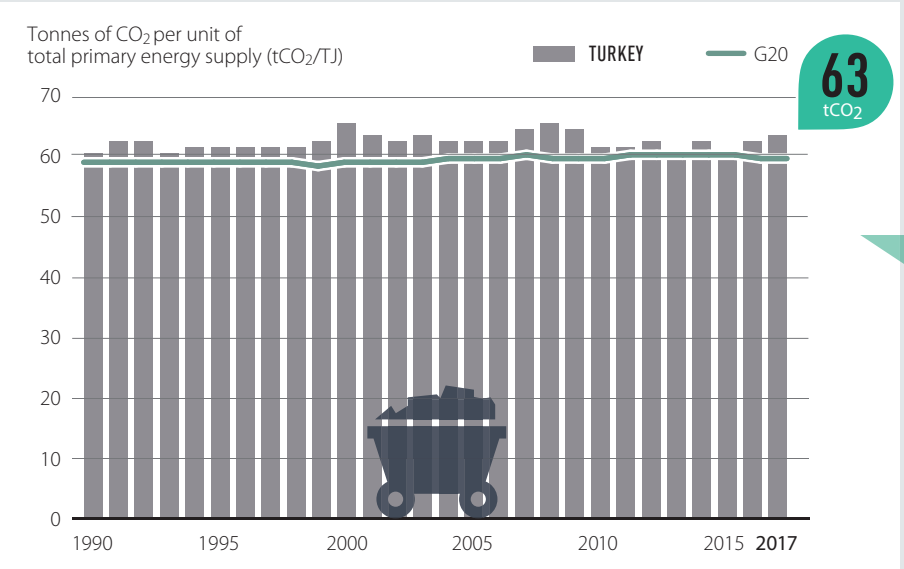

This indicator quantifies how much energy is used for each unit of GDP. Turkey's energy intensity remains below the G20 average but decreases at a lower pace (-2% from 2012–2017) than the G20 average (-11%).

*Source: Enerdata 2018*

## PERFORMANCE RATING OF ENERGY INTENSITY[12]


*Source: own evaluation*

## CARBON INTENSITY OF THE ENERGY SECTOR[16]




The carbon intensity of Turkey's energy sector has been relatively steady and remains slightly above the G20 average, reflecting the high share of fossil fuels in the energy mix. Over the past five years, it increased slightly by 2%, opposing a decreasing trend in the G20 (-2%).

*Source: Enerdata 2018*

## PERFORMANCE RATING OF CARBON INTENSITY[12]


*Source: own evaluation*

# DECARBONISATION

# TURKEY

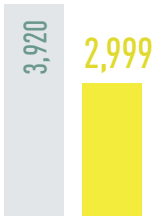
## SECTOR-SPECIFIC INDICATORS

Legend for trend: negative positive

The trend number shows developments over the past five years, where data is available

### POWER SECTOR

**ELECTRICITY DEMAND PER CAPITA** (kWh/capita)




Trend: +14%

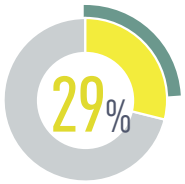
*Data from 2017*
*Source: Enerdata 2018*

**EMISSIONS INTENSITY OF THE POWER SECTOR** ($gCO_2/kWh$)


Trend: -3%

*Data from 2016*
*Source: Enerdata 2018*

**SHARE OF RENEWABLES IN POWER GENERATION** (incl. large hydro)




G20 average: 24%

Trend: +30%

*Data from 2017*
*Source: Enerdata 2018*

**SHARE OF POPULATION WITH ACCESS TO ELECTRICITY**


Trend: 0%

*Data from 2016*
*Source: World Bank 2018*

**SHARE OF POPULATION WITH BIOMASS DEPENDENCY**


*Data from 2014*
*Source: IEA 2016*

### TRANSPORT SECTOR

**TRANSPORT EMISSIONS PER CAPITA** ($tCO_2$/capita)

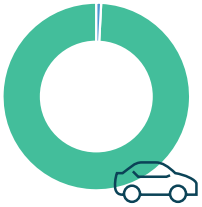

Trend: -51%

*Data from 2017*
*Source: Enerdata 2018*

**MOTORISATION RATE** (Vehicles per 1000 inhabitants)

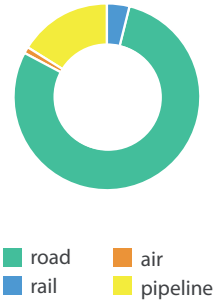

*Data from 2016 | Source: Agora Verkehrswende 2018*

**PASSENGER TRANSPORT** (modal split in % of passenger-km)




*Data from 2016 | Source: Agora Verkehrswende 2018*

**FREIGHT TRANSPORT** (modal split in % of tonne-km)



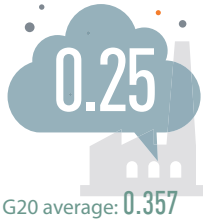

*Data from 2016 | Source: Agora Verkehrswende 2018*

**MARKET SHARE OF ELECTRIC VEHICLES IN NEW CAR SALES** (%)


*Data from 2017*
*Source: IEA 2018*

### INDUSTRY SECTOR

**INDUSTRY EMISSIONS INTENSITY** ($tCO_2e$/thousand US$2015 sectoral GDP (PPP))




Trend: -34%

*Data from 2015*
*Source: PRIMAP 2018*

### BUILDING SECTOR

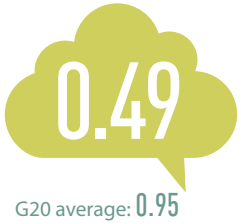
**BUILDING EMISSIONS PER CAPITA** ($tCO_2$/capita)


Trend: -11%

*Data from 2016*
*Source: Enerdata 2018*

### AGRICULTURE SECTOR

**AGRICULTURE EMISSIONS INTENSITY** ($tCO_2e$/thousand US$2015 sectoral GDP (PPP))

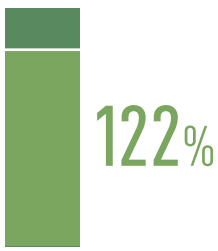



Trend: -6%

*Data from 2015*
*Source: PRIMAP 2018*

### FOREST SECTOR

**FOREST AREA COMPARED TO 1990 LEVEL** (%)

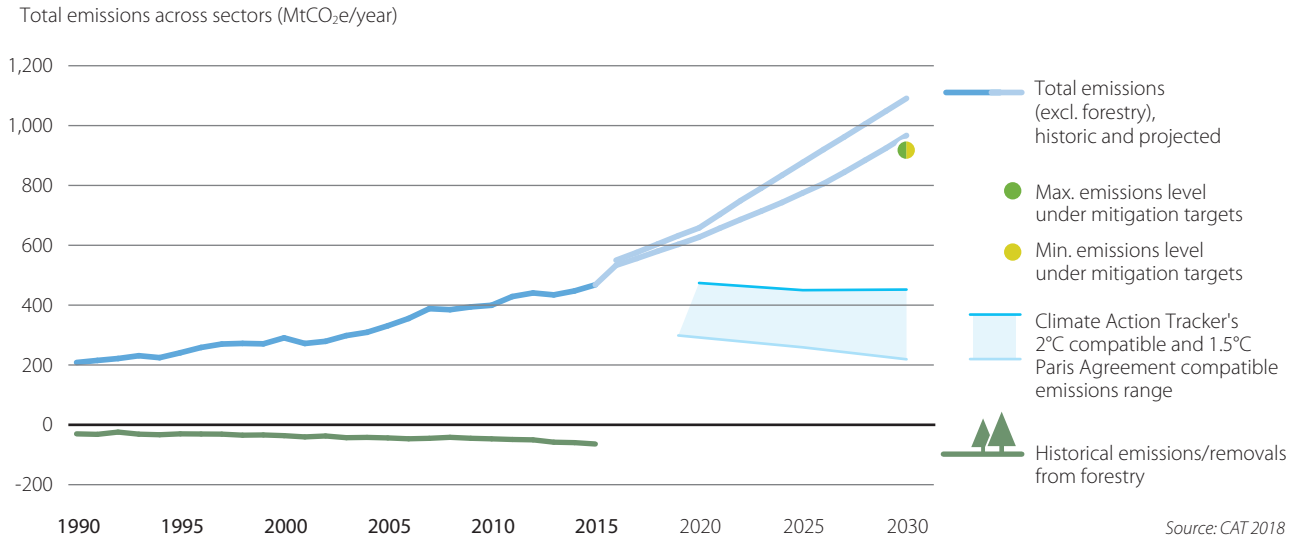



*Data from 2015*
*Source: PRIMAP 2018*

# CLIMATE POLICY

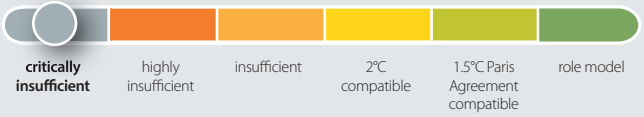
# TURKEY

## COMPATIBILITY OF CLIMATE TARGETS WITH THE PARIS AGREEMENT[2]




The CAT rates Turkey's intended NDC (INDC) "critically insufficient", meaning the target is well outside the fair range and not at all consistent with holding warming to below 2°C, let alone to 1.5°C as required by the Paris Agreement. According to the CAT's analysis, current policies are insufficient to meet Turkey's INDC. Turkey's ongoing investment in expanding coal power production runs strongly counter the need to fully decarbonise the power sector by 2050.

## CLIMATE ACTION TRACKER (CAT) EVALUATION OF NDC[2]




*Source: CAT 2018*

## NATIONALLY DETERMINED CONTRIBUTION (NDC)

Turkey's ratification of the Paris Agreement and thus the submission of its definitive NDC are still pending (table presents its INDC).

### MITIGATION

| | |
|---|---|
| **Targets** | **Overall targets**<br>Up to 21% reduction in GHG emissions from the 'business as usual' level by 2030<br>**Coverage**<br>100% of emissions covered (all sectors and gases)<br>**Sectoral targets**<br>• **Energy:** Increasing capacity of production of electricity from solar power to 10 GW and from wind power to 16 GW until 2030 |
| **Actions** | Actions specified (sectors: energy, industry, transport, buildings, agriculture, waste, forestry) |

### ADAPTATION

| | |
|---|---|
| **Targets** | Not mentioned |
| **Actions** | Not mentioned |

### FINANCE

| | |
|---|---|
| **Conditionality** | NDC partly conditional on international financial support (not specified) |
| **Investment needs** | Not specified |
| **Actions** | Not mentioned |
| **International market mechanisms** | Turkey aims to use carbon credits from international market mechanisms to achieve its 2030 mitigation target |

*Source: own compilation based on UNFCCC 2018*

# CLIMATE POLICY

# TURKEY

## POLICY EVALUATION[17]

The ratings evaluate a selection of policies that are essential pre-conditions for the longer-term transformation required to meet the 1.5°C limit. They do not represent a complete picture of what is necessary.

Legend:
**low** No action
**medium** Some action
**high** Significant action and a long-term vision
**frontrunner** Significant action, and a long-term vision that is compatible with 1.5°C
! most important measures based on share of emissions and political relevance

| | low | medium | high | frontrunner |
|---|---|---|---|---|
| **GHG emissions target for 2050 or beyond** | | | | |
| **Long-term low emissions development strategy** | | | | |

Turkey has not submitted a long-term strategy to the UNFCCC nor does the country have a 2050 emissions reduction target.

## POWER

| | | low | medium | high | frontrunner |
|---|---|---|---|---|---|
| ! | **Renewable energy in power sector** | | **medium** | | |
| ! | **Coal phase-out** | **low** | | | |

Turkey has a feed-in tariff, capacity auctions, pre-licensing auctions and other support schemes in place for different renewable energy sources, and plans to include 30% renewables in total installed capacity by 2023.

Turkey announced the opening of 30 GW of new coal-fired power plants by 2023, with more than 60 GW planned in total. The government provides subsidies and purchase guarantees for coal power.

## TRANSPORT

| | | low | medium | high | frontrunner |
|---|---|---|---|---|---|
| | Phase-out fossil fuel light duty vehicles | | **medium** | | |

All new vehicles must comply with EURO 6 standards, but there are no fuel economy standards in place. There are no plans to phase out fossil-based LDVs but certain government offices will be required to shift to EVs by 2021.

## BUILDINGS

| | | low | medium | high | frontrunner |
|---|---|---|---|---|---|
| | Near-zero energy new buildings | | **medium** | | |

All types of new buildings must comply with the Energy Performance of Buildings code, which enforces isolation standards. The 2018 Energy Efficiency Action sets out various measures to improve energy efficiency, and promises for 2019 a strategy for near zero-energy buildings.

## INDUSTRY

| | | low | medium | high | frontrunner |
|---|---|---|---|---|---|
| ! | **Low-carbon new industry installations** | | **medium** | | |

Turkey aims at a 14% reduction in overall energy consumption by 2023. For industry, the government wants to reduce energy intensity by 10% in each subsector through sectoral cooperation. For a long time, Turkey has planned to introduce a carbon trading scheme, but so far, no concrete policies have been taken.

## FORESTS

| | | low | medium | high | frontrunner |
|---|---|---|---|---|---|
| | Net zero deforestation | | **medium** | | |

The 2011 Climate Change Action Plan stipulates that deforestation and forest damage be reduced by 20% until 2020 to a 2007 baseline.

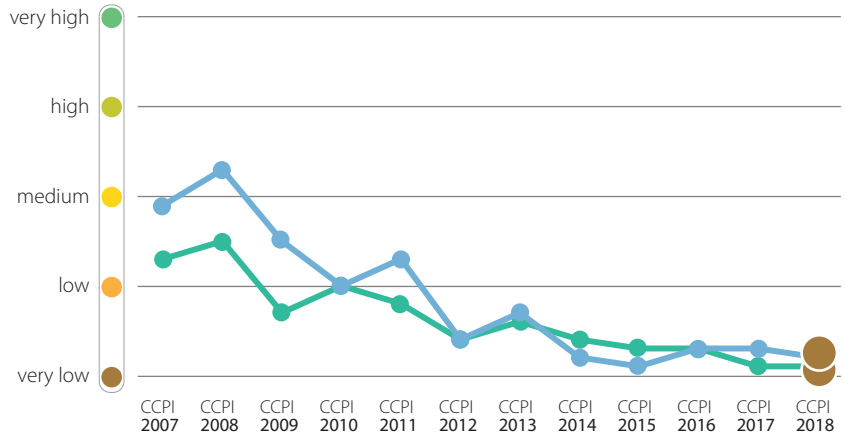
*Source: own evaluation*

# CLIMATE POLICY

# TURKEY

## CCPI EXPERTS' POLICY EVALUATION[18]

Turkey's experts rate the country's performance in both national and international climate policy as very low. They criticise unambitious targets and weak implementation, and note that the government supports coal power despite wind power being already much cheaper. Experts also highlight Turkey's weak performance in international climate diplomacy.




CCPI EVALUATION OF CLIMATE POLICY (2018)

Evaluation of international climate policy

Evaluation of national climate policy

*Source: CCPI 2018*

## JUST TRANSITION[19]

The Turkish presidency during the Labour 20 Summit in 2015 committed to ensuring the representation of developing countries in G20 processes and urged international leaders to move towards low-carbon economies through G20 cooperation on just transition strategies. Yet, despite a focus on energy efficiency and renewable energy roll-out over the past decade, Turkey has not implemented policies towards a comprehensive, social-oriented and inclusive approach for the energy transition. Fossil fuels still account for most of Turkey's total primary energy supply, with considerable increases in exploration of mines, fossil fuels and geothermal resources, to achieve self-sufficiency. Additionally, no clear commitment nor emissions reduction goal has been announced for the mid- to long-term future. Turkey has yet to ratify the Paris Agreement, and it is uncertain if the current government will undertake more ambitious commitments regarding just transition.

# FINANCING THE TRANSITION

# TURKEY

## FINANCIAL POLICIES AND REGULATIONS

Through policy and regulation governments can overcome challenges to mobilising green finance, including: real and perceived risks, insufficient returns on investment, capacity and information gaps.

### APPROACHES TO IMPLEMENTING THE RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)[20]

This indicator establishes the degree of government engagement with the recommendations of the G20 Financial Stability Board's Task Force on Climate-Related Financial Disclosure.


*Source: CISL 2018*

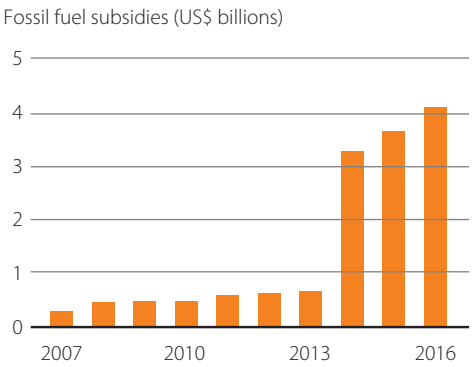
Turkey's Banking Regulation and Supervision Agency (BRSA) is undertaking a survey of sustainability-related policies and regulations, as well as to enhance banks' awareness of sustainability issues; with results due during the course of 2018.

## FISCAL POLICY LEVERS

Fiscal policy levers raise public revenues and direct public resources. Critically, they can shift investment decisions and consumer behaviour towards low-carbon, climate-resilient activities by reflecting externalities in prices.

### FOSSIL FUEL SUBSIDIES

In 2016, Turkey provided US$4.1bn in fossil fuel subsidies (from US$0.3bn in 2007). Between 2007 and 2016, subsidies were lower (US$0.001) than the G20 average (US$0.003) per unit of GDP. Subsidies were provided through direct budget support and tax exemptions, primarily targeting consumption (89%). In absolute terms, the largest subsidy is the exemptions under the special consumption tax for fuels (naphtha, petroleum coke and petroleum bitumen) (US$1.5 bn in 2016).




*Source: OECD/IEA 2018*

### CARBON REVENUES

Turkey does not have a national carbon tax or emissions trading scheme in place, but the introduction of a carbon pricing scheme is being considered. Information on the proportion of domestic emissions covered or the price of emissions has yet to be decided.

NO EXPLICIT CARBON PRICING SCHEME FROM 2007 TO 2017.


*Source: I4CE 2018*

# FINANCING THE TRANSITION

# TURKEY

## PUBLIC FINANCE

Governments steer investments through their public finance institutions including via development banks, both at home and overseas, and green investment banks. Developed G20 countries also have an obligation to provide finance to developing countries and public sources are a key aspect of these obligations under the UNFCCC.

## NATIONAL AND INTERNATIONAL PUBLIC FINANCE IN THE POWER SECTOR[21]

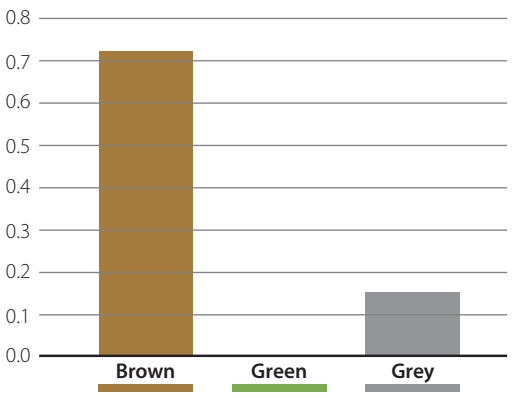
From 2013 to 2015, Turkey's public finance institutions spent an annual average of US$0.7bn brown and US$0.1bn in grey financing in the power sector, domestically and internationally. No green financing was identified, though data is lacking. The largest transactions were loans (US$0.5bn) for exploration in the Shah Deniz gas field in Azerbaijan and US$0.8bn to privatise coal power plants in Turkey.

coal, oil and gas projects (and associated infrastructure) **brown**

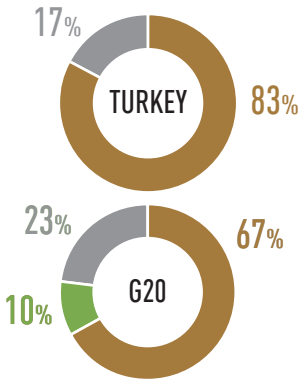
large-scale hydropower, biofuels, biomass, nuclear, incineration, transmission, distribution, storage, energy efficiency, other general electricity support **grey**

renewable energy projects (excluding grey financing) **green**

2013-2015 annual average of power finance (US$ billions)




Proportion of total public finance to power




*Source: Oil Change International 2017*

## PROVISION OF INTERNATIONAL PUBLIC SUPPORT

Turkey is not listed in Annex II of the UNFCCC, and it is therefore not formally obliged to provide climate finance. While Turkey may channel international public finance towards climate change via multilateral and other development banks, it has not been included in this report.

### OBLIGATION TO PROVIDE CLIMATE FINANCE UNDER UNFCCC

YES NO

### CONTRIBUTIONS THROUGH THE MAJOR MULTILATERAL CLIMATE FUNDS[22]

*Note: See Technical Note for multilateral climate funds included and method to attribute amounts to countries*

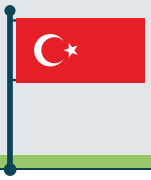
*Source: Climate Funds Update 2017*

| Annual average contribution (mn US$, 2015-2016) | Theme of support | | |
|---|---|---|---|
| | Adaptation | Mitigation | Cross-cutting |
| n.a. | n.a. | n.a. | n.a. |

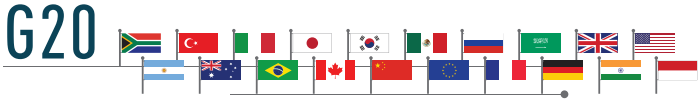
### BILATERAL CLIMATE FINANCE CONTRIBUTIONS[23]

*Source: Country reporting to the UNFCCC*

| Annual average contribution (mn US$, 2015-2016) | Theme of support | | | |
|---|---|---|---|---|
| | Mitigation | Adaptation | Cross-cutting | Other |
| n.a. | n.a. | n.a. | n.a. | n.a. |



# ANNEX




For more detail on sources and methodologies, please refer to the Technical Note at:
**https://www.climate-transparency.org/wp-content/uploads/2018/11/Technical-Note_data-sources-and-methodology.pdf**

1) The 2030 projections of the future development of greenhouse gas (GHG) emissions under current policies are based on the Climate Action Tracker (CAT) estimates.

2) The CAT is an independent scientific analysis that tracks progress towards the globally agreed aim of holding warming to well below 2°C, and pursuing efforts to limit warming to 1.5°C. The CAT "Effort Sharing" assessment methodology applies state-of-the-art scientific literature on how to compare the fairness of government efforts and (Intended) Nationally Determined Contribution ((I) NDC) proposals against the level and timing of emission reductions consistent with the Paris Agreement. The assessment of the temperature implications of a country's NDC is based on the assumption that all other governments would follow a similar level of ambition.

3) This assessment is based on the policy evaluation on page 9 of this Country Profile.

4) Gross Domestic Product (GDP) per capita is calculated by dividing GDP with mid-year population figures. GDP is the value of all final goods and services produced within a country in a given year. Here GDP figures at purchasing power parity (PPP) are used. Data for 2017.

5) The Human Development Index (HDI) is a composite index published by the United Nations Development Programme (UNDP). It is a summary measure of average achievement in key dimensions of human development. A country scores higher when the lifespan is higher, the education level is higher, and GDP per capita is higher.

6) The ND-GAIN index summarises a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. This report looks only at the exposure indicators as part of the vulnerability component of the ND-GAIN index for six sectors. It displays the exposure scores provided by the ND-GAIN on a scale from low (score: 0) to high (score: 1).

7) The indicator covers all Kyoto gases showing historic emissions in each of the IPCC source categories (energy, industrial processes, agriculture, etc.). Emissions projections (excl. forestry) under a current policy scenario until 2030 are taken from the Climate Action Tracker and scaled to the historical emissions from PRIMAP (see Brown to Green Report 2018 Technical Note).

8) The ratings on GHG emissions are taken from the Climate Change Performance Index (CCPI) 2018. The rating of "current level compared to a well below 2°C pathway" is based on a global scenario of GHG neutrality in the second half of the century and a common but differentiated convergence approach.

9) $CO_2$ emissions cover only the emissions from fossil fuels combustion (coal, oil and gas) by sector. They are calculated according to the UNFCCC methodology (in line with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories).

10) Total primary energy supply data displayed in this Country Profile does not include non-energy use values. Solid fuel biomass in residential use has negative environmental and social impacts and is shown in the category "other".

11) Zero-carbon fuels include nuclear, hydropower and new renewables (non-residential biomass, geothermal, wind, solar).

12) Climate Transparency ratings assess the relative performance across the G20. A high scoring reflects a good effort from a climate protection perspective but is not necessarily 1.5°C compatible.

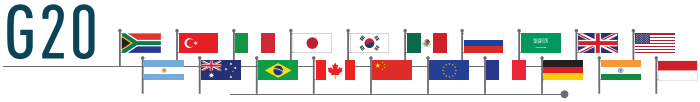
13) New renewables include non-residential biomass, geothermal, wind and solar energy. Hydropower and solid fuel biomass in residential use are excluded due to their negative environmental and social impacts.

14) Total primary energy supply (TPES) per capita displays the historical, current and projected energy supply in relation to a country's population. Alongside the intensity indicators (TPES/GDP and $CO_2$/TPES), TPES per capita gives an indication on the energy efficiency of a country's economy. In line with a well-below 2°C limit, TPES per capita should not grow above current global average levels. This means that developing countries are still allowed to expand their energy use to the current global average, while developed countries have to simultaneously reduce it to that same number.

15) TPES per GDP describes the energy intensity of a country's economy. This indicator illustrates the efficiency of energy usage by calculating the energy needed to produce one unit of GDP. Here GDP figures at PPP are used. A decrease in this indicator can mean an increase in efficiency but also reflects structural economic changes.

16) The carbon intensity of a country's energy sector describes the $CO_2$ emissions per unit of total primary energy supply and gives an indication of the share of fossil fuels in the energy supply.

# ANNEX (continued)




17) The selection of policies rated and the assessment of 1.5°C compatibility are informed by the Paris Agreement and the Climate Action Tracker (2016): "The ten most important short-term steps to limit warming to 1.5°C". The table below displays the criteria used to assess a country's policy performance. See the Brown to Green Report 2018 Technical Note for the sources used for this assessment.

18) The CCPI evaluates a country's performance in national climate policy, as well as international climate diplomacy through feedback from national experts from non-governmental organisations to a standardised questionnaire.

19) See the Brown to Green 2018 Technical Note for the sources used for this assessment.

20) The University of Cambridge Institute for Sustainability Leadership (CISL) in early 2018 reviewed the progress made by the national regulatory agencies of G20 members in making the Task Force on Climate-related Financial Disclosures (TCFD) recommendations relevant to their national contexts. See the Brown to Green Report 2018 Technical Note for more information on the assessment.

21) This data includes bilateral public finance institutions such as national development banks and other development finance institutions, overseas aid agencies, export credit agencies, as well as key multilateral development banks. The analysis omits most finance delivered through financial intermediaries and significant volumes of multilateral development bank (MDB) development policy finance (due to a lack of clarity on power finance volumes). Given a lack of transparency, other important multilateral institutions in which G20 governments participate are not covered. See the Brown to Green Report 2018 Technical Note for further details.

22) Finance delivered through multilateral climate funds comes from Climate Funds Update, a joint ODI/Heinrich Boell Foundation database that tracks spending through major multilateral climate funds. See the Brown to Green Report 2018 Technical Note for multilateral climate funds included and method to attribute approved amounts to countries.

23) Bilateral finance commitments are sourced from Biennial Party reporting to the UNFCCC. Financial instrument reporting is sourced from the OECD-DAC; refer to the Brown to Green Report 2018 Technical Note for more detail. Figures represent commitments of Official Development Assistance (ODA) funds to projects or programmes, as opposed to actual disbursements.

| On endnote 17) | **Criteria description** | | | |
|---|---|---|---|---|
| | Low | Medium | High | Frontrunner |
| **GHG emissions target for 2050 or beyond** | No emissions reduction target for 2050 or beyond | Existing emissions reduction target for 2050 or beyond | Existing emissions reduction target for 2050 or beyond and clear interim steps | Emissions reduction target to bring GHG emissions to at least net zero by 2050 |
| **Long-term low emissions development strategy** | No long-term low emissions strategy | Existing long-term low emissions strategy | Long-term low emissions strategy includes interim steps and/or sectoral targets | Long-term low emissions strategy towards full decarbonisation in the second half of the century; includes interim steps and/or sectoral targets, plus institutions and measures in place to implement and/or regularly review the strategy |
| **Renewable energy in power sector** | Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 0-25 | Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 26-60 | Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 61-100 | Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), 61-100 plus 100% renewables in the power sector by 2050 in place |
| **Coal phase-out** | No consideration or policy in place for phasing out coal | Significant action to reduce coal use implemented or coal phase-out under consideration | Coal phase-out decided and under implementation | Coal phase-out date compatible with 1.5°C |
| **Phase-out of fossil fuel light duty vehicles (LDVs)** | No policy or emissions performance standards for LDVs in place | Energy/emissions performance standards or support for efficient LDVs | National target to phase out fossil fuel LDVs in place | Ban on new fossil-based LDVs by 2025/30 |
| **Near zero-energy new buildings** | No policy or low emissions building codes and standards in place | Building codes, standards or fiscal/financial incentives for low emissions options in place | National strategy for near zero-energy buildings (at least for all new buildings) | National strategy for near zero-energy buildings by 2020/25 (at least for all new buildings) |
| **Low-carbon new industry installations** | No policy or support for energy efficiency in industrial production in place | Support for energy efficiency in industrial production (covering at least two of the country's sub-sectors (e.g. cement and steel production)) | Target for new installations in emissions-intensive sectors to be low-carbon | Target for new installations in emissions-intensive sectors to be low-carbon after 2020, maximising efficiency |
| **Net zero deforestation** | No policy or incentive to reduce deforestation in place | Incentives to reduce deforestation or support schemes for afforestation / reforestation in place | National target for reaching zero deforestation | National target for reaching zero deforestation by 2020s or for increasing forest coverage |

# CLIMATE TRANSPARENCY

Partners:

Funders:

Supported by:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

based on a decision of the German Bundestag

Data Partners:

**http://www.climate-transparency.org/g20-climate-performance/g20report2018**