

BROWN TO GREEN:

THE G20 TRANSITION TO A LOW-CARBON ECONOMY | 2018

BRAZIL

GREENHOUSE GAS (GHG) EMISSIONS
(INCL. FORESTRY) PER CAPITA
(tCO₂e/capita)



Data from 2015 | Source: PRIMAP 2018



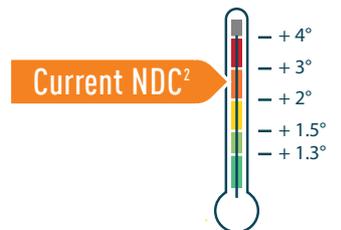
The gap:

Is Brazil on track to stay below the Paris Agreement temperature limit?

Based on implemented policies, Brazil's **GHG emissions** are expected to increase to 1,095 MtCO₂e by 2030 (excl. forestry). This emission pathway is not compatible with the Paris Agreement.¹

Brazil's **NDC** is not consistent with the Paris Agreement's temperature limit but would lead to a warming of between 2°C and 3°C.²

Brazil's sectoral **policies** are still falling short of being consistent with the Paris Agreement, especially with respect to transport and deforestation, but the country's renewable energy policy is a promising sign.³



Source: CAT 2018

Recent developments:

What has happened since the Paris conference?

↓ After deforestation in the Amazon forest dropped significantly in the last decade, recent trends show a 52% increase in deforestation rates from 2012 to 2017.

↑ The government announced plans in 2017 to increase solar power 4,000 times to more than 13 GW installed capacity by 2026.

↑ Brazil's central bank has introduced requirements for banks to monitor environmental risks, building on a voluntary Green Protocol from the banking sector.

Brown and green performance:

Where does Brazil lead or lag compared to G20 countries?

FOSSIL FUEL SUBSIDIES
Brazil's fossil fuel subsidies as share of GDP are well above G20 average

16.25 billion
US\$
in 2016



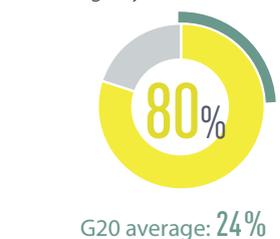
Source: OECD/IEA 2018

FOREST AREA
COMPARED TO 1990 LEVEL
(%)



Data from 2015 | Source: PRIMAP 2018

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



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:
BRAZIL**



GDP PER CAPITA⁴
(PPP US\$ const. 2015, international)



Source: World Bank 2017

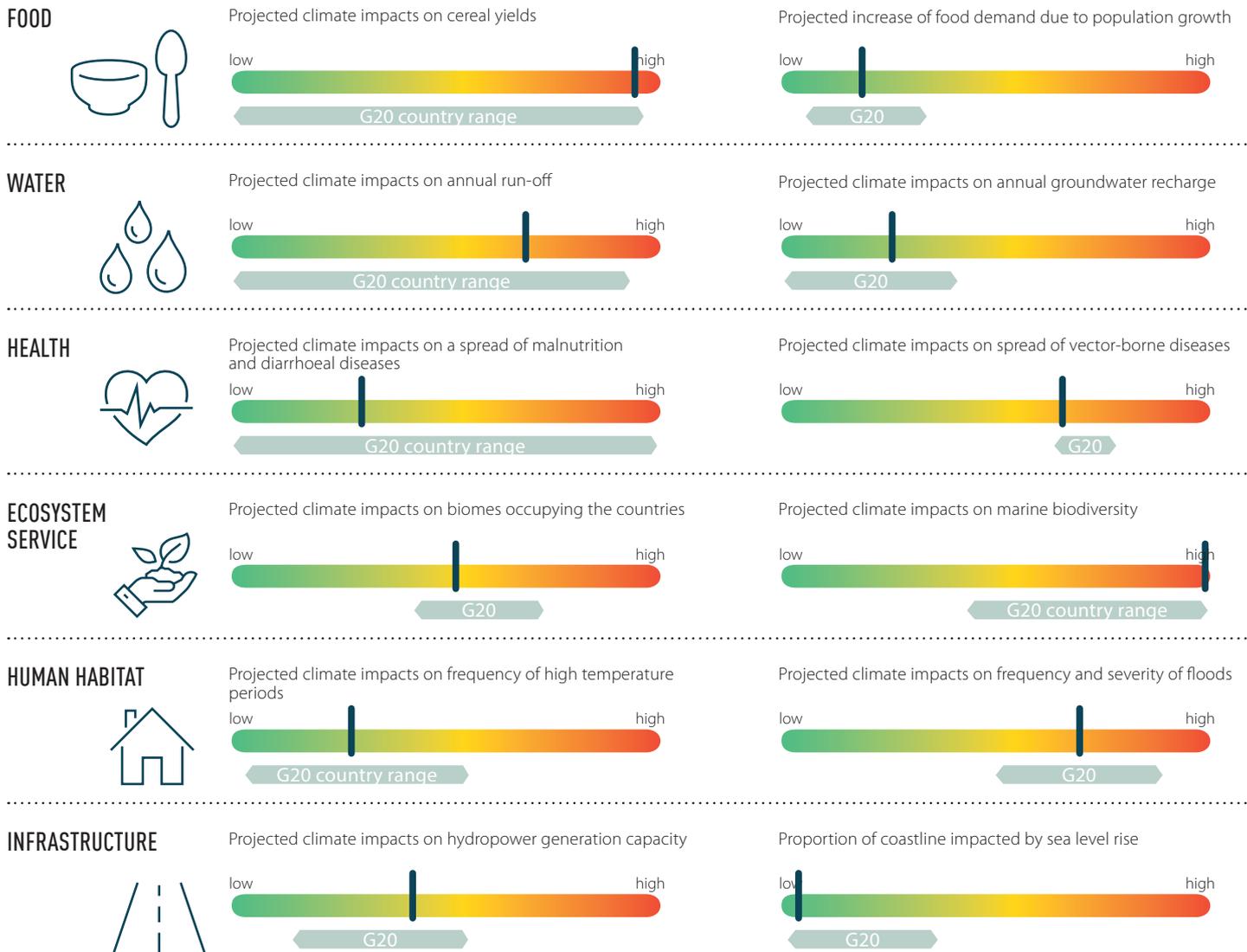
HUMAN DEVELOPMENT INDEX⁵



Data from 2017 | Source: UNDP 2018

BRAZIL'S EXPOSURE TO CLIMATE IMPACTS⁶

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.

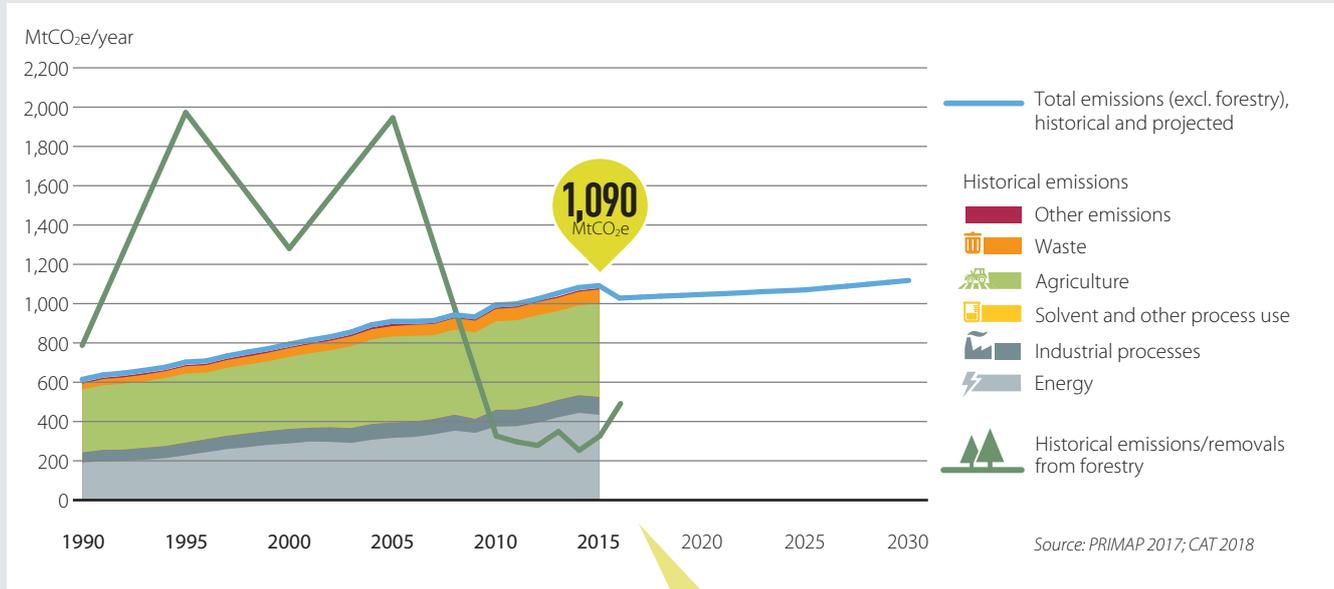


Own composition based on ND-GAIN 2017 (based on data for 2016)

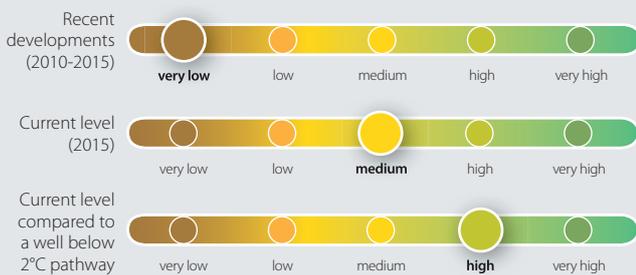
GREENHOUSE GAS (GHG) EMISSIONS

BRAZIL

TOTAL GHG EMISSIONS ACROSS SECTORS⁷

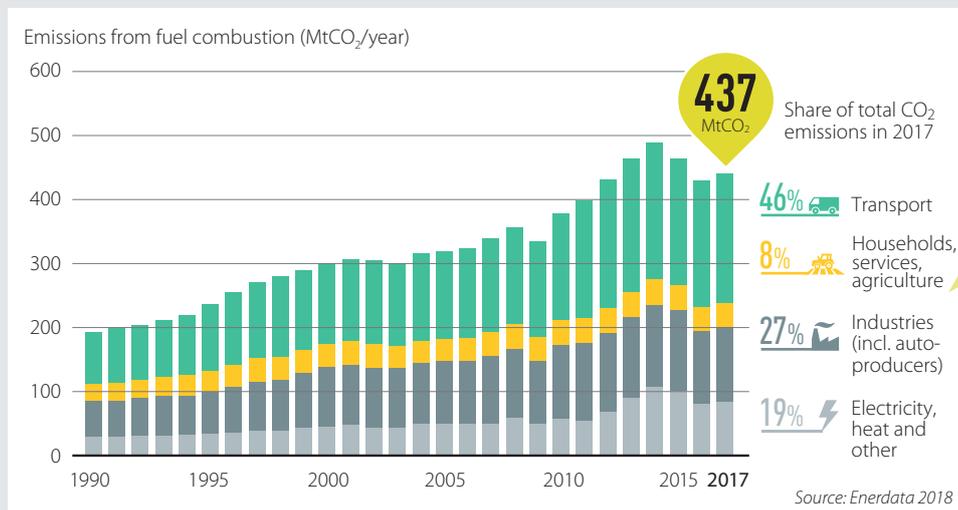


CCPI PERFORMANCE RATING OF GHG EMISSIONS PER CAPITA⁸



Brazil's total GHG emissions have only increased slightly since 1990, when including the historically high emissions from forestry, which have fallen significantly over the past decade. However, when excluding forest emissions, GHG emissions increased by 81% between 1990 and 2015, mainly due to growing emissions from agriculture and energy. Emissions are expected to grow at a slow pace towards 2030.

ENERGY-RELATED CO₂ EMISSIONS⁹

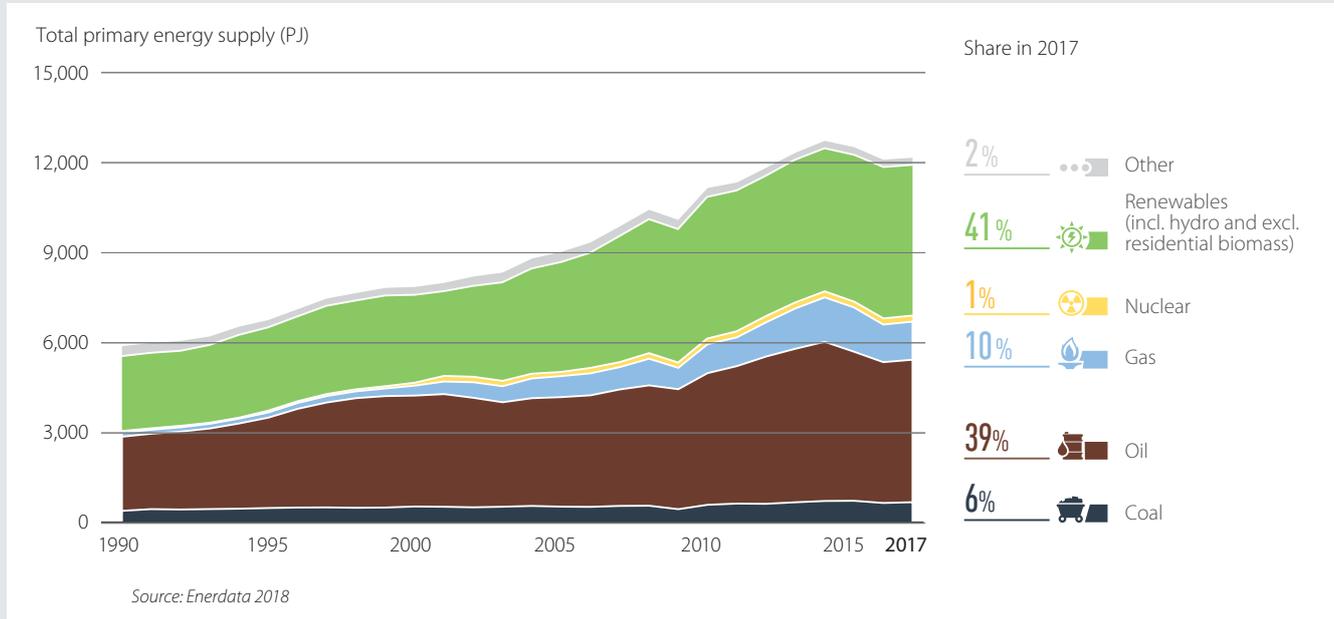


CO₂ emissions from fuel combustion contribute significantly to overall GHG emissions in the country, largely driven by transport emissions, which have more than doubled since 1990. Since 2014, CO₂ emissions from energy have started to decrease because of a serious economic recession.

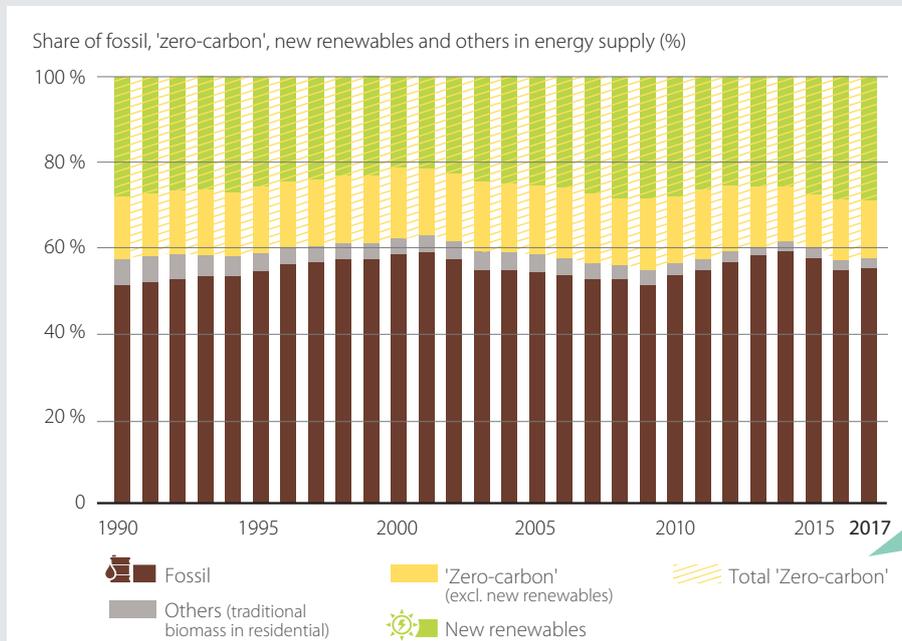
DECARBONISATION

BRAZIL

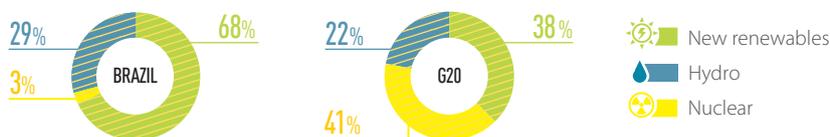
ENERGY MIX¹⁰



SHARE OF FOSSIL FUELS AND 'ZERO-CARBON' FUELS IN ENERGY SUPPLY¹¹

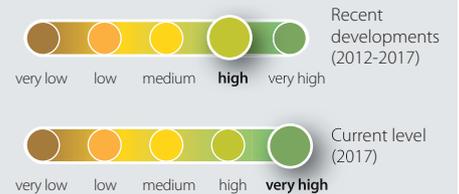


'ZERO-CARBON' SHARES



Source: Enerdata 2018

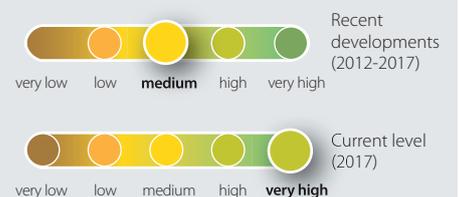
PERFORMANCE RATING OF SHARE OF FOSSIL FUELS¹²



Source: own evaluation

Zero-carbon fuels include nuclear, hydropower, new renewables. Brazil has one of the highest zero-carbon shares in the energy mix (43%, mainly hydropower and biofuels) in the G20 (average 14%) but shows only 4% growth (2012-2017).

PERFORMANCE RATING OF SHARE OF ZERO-CARBON TECHNOLOGY¹²

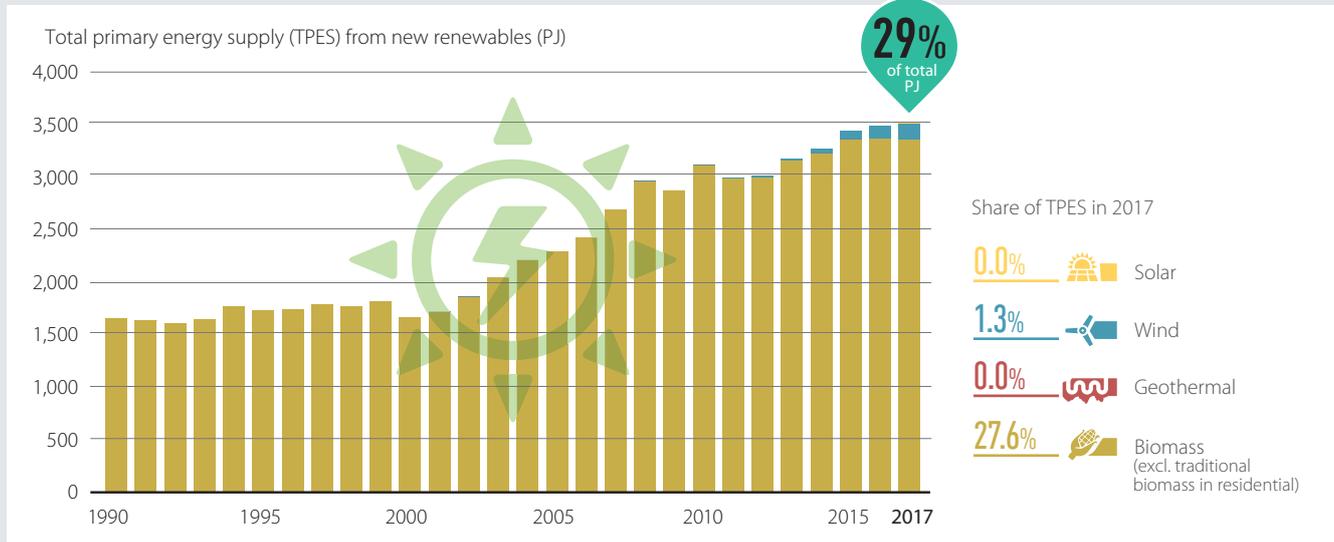


Source: own evaluation

DECARBONISATION

BRAZIL

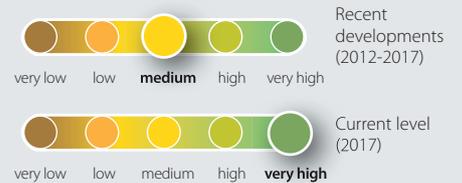
NEW RENEWABLES¹³



Source: Enerdata 2018

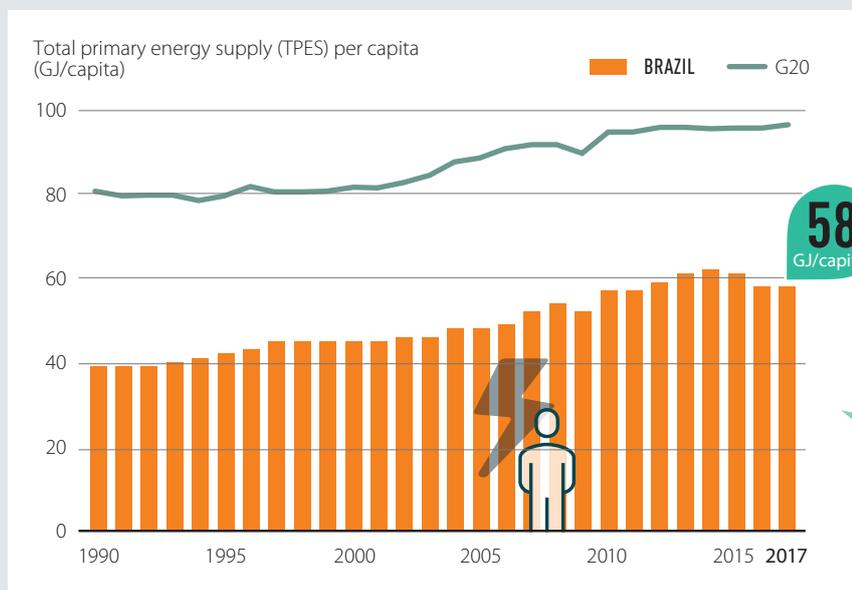
"New renewables" includes solar, wind, geothermal and biomass (excl. traditional biomass in residential use) energy. Brazil generates 29% of its energy supply from new renewable sources (G20 average is only 5%). The growth in new renewables (+17%, 2012–2017) is mainly driven by biomass, which represents almost 97% of the new renewable energy supply.

PERFORMANCE RATING OF NEW RENEWABLES¹²



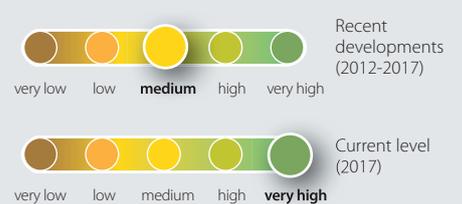
Source: own evaluation

ENERGY USE PER CAPITA¹⁴



Source: Enerdata 2018

PERFORMANCE RATING OF ENERGY USE PER CAPITA¹²



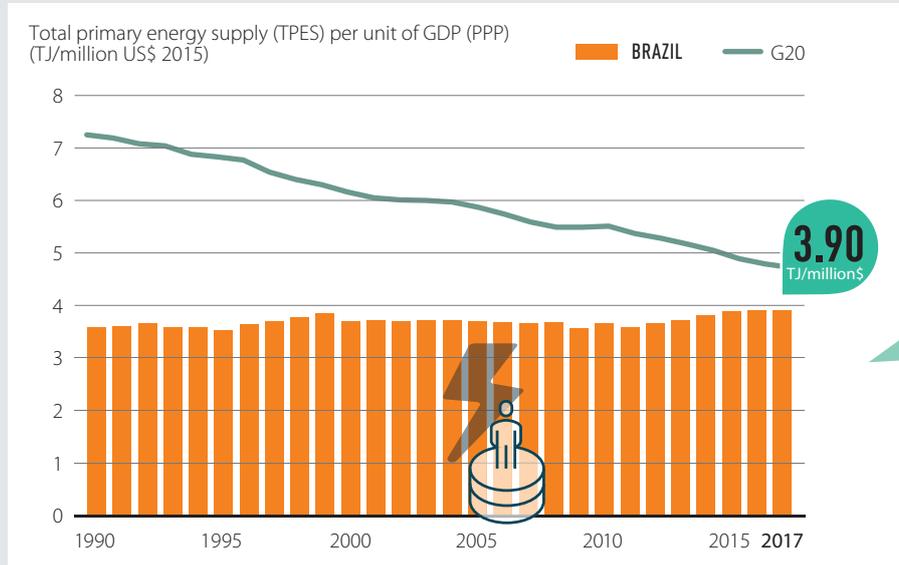
Source: own evaluation

Energy use per capita in Brazil has increased by 48% since 1990 but started to decrease since 2014 and remains well below the G20 average.

DECARBONISATION

BRAZIL

ENERGY INTENSITY OF THE ECONOMY¹⁵



This indicator quantifies how much energy is used for each unit of GDP. In contrast to the decreasing G20 trend, Brazil's energy intensity has remained almost stable but is still below the G20 average.

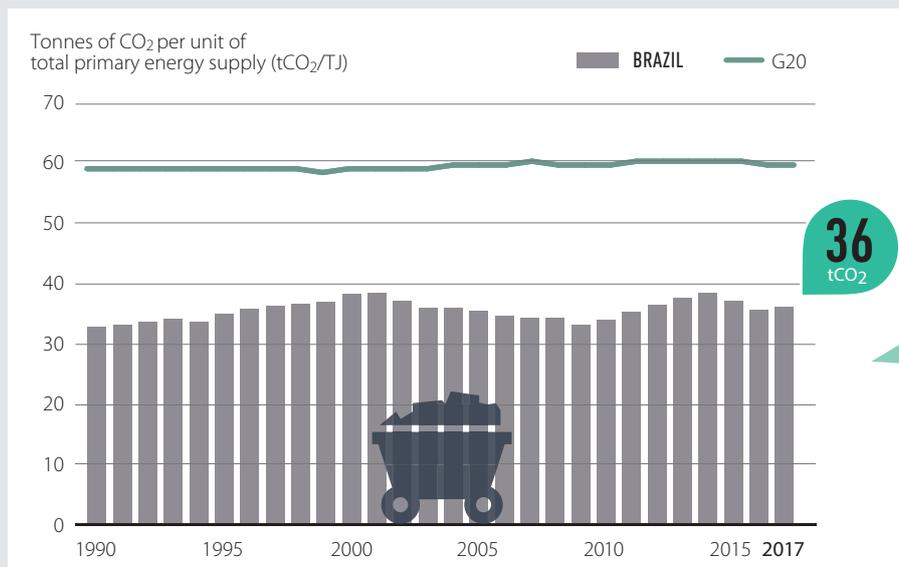
Source: Enerdata 2018

PERFORMANCE RATING OF ENERGY INTENSITY¹²



Source: own evaluation

CARBON INTENSITY OF THE ENERGY SECTOR¹⁶



With 36 tCO₂/TJ, the carbon intensity of Brazil's energy sector remains well below the G20 average (59 tCO₂/TJ). This reflects the relatively high share of hydropower and biofuels in the energy mix.

Source: Enerdata 2018

PERFORMANCE RATING OF CARBON INTENSITY¹²



Source: own evaluation

DECARBONISATION

BRAZIL

SECTOR-SPECIFIC INDICATORS

Legend for trend: negative positive

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

POWER SECTOR

<p>ELECTRICITY DEMAND PER CAPITA (kWh/capita)</p> <p>G20: 3,920 Brazil: 2,493</p> <p>Trend: +4%</p> <p><small>Data from 2017 Source: Enerdata 2018</small></p>	<p>EMISSIONS INTENSITY OF THE POWER SECTOR (gCO₂/kWh)</p> <p>G20 average: 490 Brazil: 82</p> <p>Trend: +180%</p> <p><small>Data from 2016 Source: MCTIC 2018</small></p>	<p>SHARE OF RENEWABLES IN POWER GENERATION (incl. large hydro)</p> <p>G20 average: 24% Brazil: 80%</p> <p>Trend: -7%</p> <p><small>Data from 2017 Source: Enerdata 2018</small></p>	<p>SHARE OF POPULATION WITH ACCESS TO ELECTRICITY</p> <p>100%</p> <p>Trend: +1%</p> <p><small>Data from 2016 Source: World Bank 2018</small></p>	<p>SHARE OF POPULATION WITH BIOMASS DEPENDENCY</p> <p>5%</p> <p><small>Data from 2014 Source: IEA 2016</small></p>
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TRANSPORT SECTOR

<p>TRANSPORT EMISSIONS PER CAPITA (tCO₂/capita)</p> <p>G20 average: 1.13 Brazil: 0.96</p> <p>Trend: -4%</p> <p><small>Data from 2017 Source: Enerdata 2018</small></p>	<p>MOTORISATION RATE (Vehicles per 1000 inhabitants)</p> <p>162</p> <p><small>Data from 2014 Source: Agora Verkehrswende 2018</small></p>	<p>PASSENGER TRANSPORT (modal split in % of passenger-km)</p> <p>car & bus, rail, air</p> <p><small>Data from 2017 Source: IBGE 2017</small></p>	<p>FREIGHT TRANSPORT (modal split in % of tonne-km)</p> <p>road, rail, inland waterways, air, pipeline</p> <p><small>Data from 2017 Source: IBGE 2017</small></p>	<p>MARKET SHARE OF ELECTRIC VEHICLES IN NEW CAR SALES (%)</p> <p>0.02%</p> <p><small>Data from 2017 Source: IEA 2018</small></p>
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INDUSTRY SECTOR

INDUSTRY EMISSIONS INTENSITY
(tCO₂e/thousand US\$2015 sectoral GDP (PPP))

G20 average: 0.357
Brazil: 0.30

Trend: +4%

Data from 2015
Source: PRIMAP 2018

BUILDING SECTOR

BUILDING EMISSIONS PER CAPITA
(tCO₂/capita)

G20 average: 0.48
Brazil: 0.10

Trend: -5%

Data from 2016
Source: Enerdata 2018

AGRICULTURE SECTOR

AGRICULTURE EMISSIONS INTENSITY
(tCO₂e/thousand US\$2015 sectoral GDP (PPP))

G20 average: 0.95
Brazil: 2.80

Trend: -11%

Data from 2015
Source: PRIMAP 2018

FOREST SECTOR

FOREST AREA COMPARED TO 1990 LEVEL
(%)

90%

Data from 2015
Source: PRIMAP 2018

Deforestation in the Amazon forest dropped by 76% from 2005 to 2012 (from 19,010 to 4,570 km²/year), but it increased again by 52% (2012–2017: 4,570 to 6,950 km²/year). This recent trend is not consistent with Brazilian NDC goals.



CLIMATE POLICY

BRAZIL

COMPATIBILITY OF CLIMATE TARGETS WITH THE PARIS AGREEMENT²



The CAT rates Brazil's NDC "insufficient" – i.e., its targets are inconsistent with limiting warming to below 2°C, let alone to 1.5°C. The current policy emissions projections for Brazil are no longer in line with the NDC target due to an increase of almost 30% in total deforestation in 2016 compared to 2015, more than 50% in the Amazon region. This goes against Brazil's commitments under the Paris Agreement, including a target of zero illegal deforestation in the Brazilian Amazonia by 2030.

CLIMATE ACTION TRACKER (CAT) EVALUATION OF NDC²



NATIONALLY DETERMINED CONTRIBUTION (NDC)

MITIGATION

Targets	<p>Overall targets 37% GHG emissions reduction compared to 2005 by 2025, 43% by 2030 (decarbonisation of the economy by the end of the century)</p> <p>Coverage 100% of emissions covered (all sectors and gases)</p> <p>Sectoral targets</p> <ul style="list-style-type: none"> • Energy: Achieving 45% of renewables in the energy mix by 2030; increasing the share of sustainable biofuels in the Brazilian energy mix to approximately 18% by 2030 • Forestry: Zero illegal deforestation by 2030 and compensating for GHG emissions from legal suppression of vegetation by 2030; restoring and reforesting 12 million hectares of forests by 2030
Actions	Actions specified (sectors: energy, land use and forestry, agriculture, industry, transport)

ADAPTATION

Targets	Not mentioned
Actions	Actions specified (sectors: health, water, biodiversity/ecosystems infrastructure)

FINANCE

Conditionality	Further actions beyond the current NDC are conditional
Investment needs	Not specified
Actions	Not mentioned
International market mechanisms	Brazil reserves its position in relation to the possible use of any market mechanisms

Source: own compilation based on UNFCCC 2018



CLIMATE POLICY

BRAZIL

POLICY EVALUATION¹⁷

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

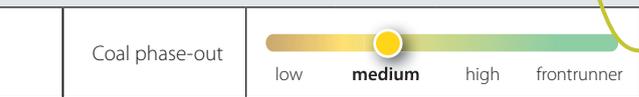


Brazil has the long-term aspiration to completely decarbonise the economy by the end of the century, but does not yet have a low emissions development strategy.

POWER

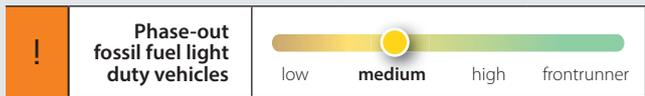


Brazil already has a high share of hydropower in the electricity mix. It aims to increase the share of other renewables to 23% by 2030, and solar power to more than 13 GW capacity by 2026, compared to only a few MW in 2017. The government has not yet set a renewable target for 2050.



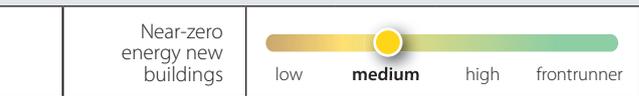
The Brazilian Development Bank announced that it will no longer finance coal-based power plants, but the government plans to increase coal power to 3.5 GW installed capacity in 2026.

TRANSPORT



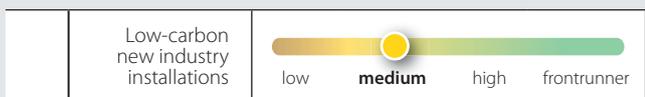
Brazil has no target to phase out fossil fuel LDVs but has strong biofuels mandates (27.5% ethanol mix in gasoline and 10% biodiesel mix in diesel). It aims to increase biofuels in the energy mix to 18% by 2030. Flex-fuel cars already represent more than 90% of new sales and more than 50% of the fleet. The Rota 2030 programme, published in 2018, requires manufacturers to increase energy efficiency of their fleet by 11% by 2022, and grants tax cuts on the purchase and import of electric and hybrid vehicles.

BUILDINGS



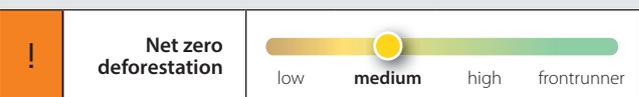
Brazil has a voluntary labelling scheme for residential buildings but no requirements on minimum energy performance of buildings nor a strategy for promoting near-zero energy buildings.

INDUSTRY



Minimum efficiency performance standards are in place for motors used in industry. No other energy efficiency policies for industry are in place.

FORESTS



In 2008 Brazil had set itself a target of reaching "net zero deforestation" by 2015 but has corrected this to a target of "zero illegal deforestation" by 2030. The government plans to reforest an area of 12 million hectares by 2030, and launched in 2017 a revised monitoring system to fight illegal logging.

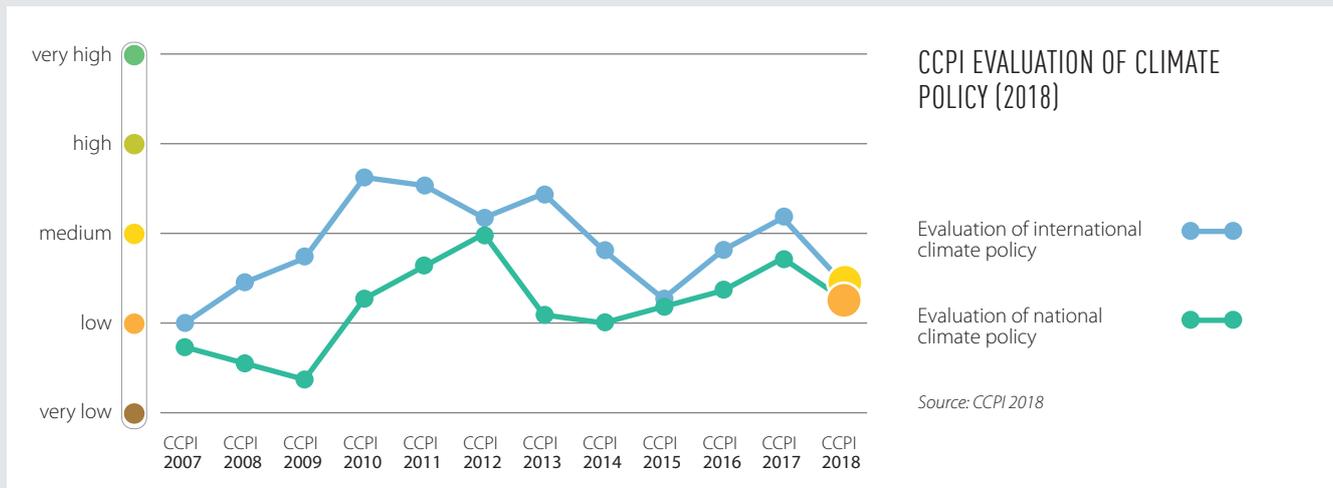
Source: own evaluation

CLIMATE POLICY

BRAZIL

CCPI EXPERTS' POLICY EVALUATION¹⁸

Brazil's experts rate the country's national policy performance as low, as the government has cut back on implementing policies to reduce emissions from forests. Experts criticise Brazil for failing to implement existing measures. They rate as medium Brazil's international climate policy performance, due to previous governments' high profile on the international stage but they note a drastic change in this regard with the current government.



JUST TRANSITION¹⁹

Public debate on just transition in Brazil has so far been limited, despite its relevance in a developing country. A 2018 International Labour Organization (ILO) report notes that, if appropriate policies are adopted, the global transition to a greener and more sustainable economy could create 620,000 new jobs in Brazil, compensating for the 180,000 jobs that could be lost. ILO recommends countries urgently adopt a policy mix that includes income transfer, stronger social security, limits on fossil fuel use and new training programmes to anticipate the skills needed for

the transition. CUT, a prominent trade union in Brazil, currently leads the just transition debate from the workers' perspective, and is part of the trade union delegation to the COP (led by the ITUC). Brazil's National Adaptation Plan to Climate Change, published in 2016, recognises the need to achieve a just transition, albeit without a clear strategy on how to do this.



FINANCING THE TRANSITION

BRAZIL

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.

No formal engagement with TCFD	Political and regulatory engagement	Formal engagement with private sector	Publication of guidance and action plans	Encoding into law

Source: CISL 2018

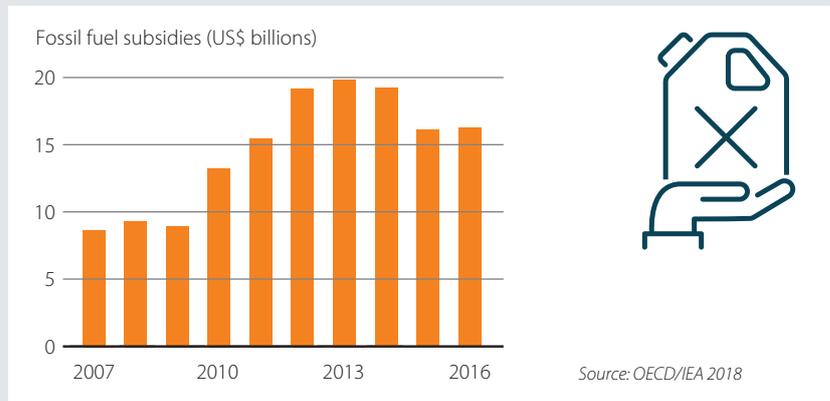
Brazil’s Superintendência de Seguros Privados – responsible for overseeing the insurance, open private pension funds and capitalisation markets – called for TCFD implementation in 2017. Beyond TCFD, the Securities and Exchange Commission in 2011 recommended that listed companies disclose environmental risks. The Banco Central do Brasil now requires banks to monitor environmental risks.

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, Brazil’s fossil fuel subsidies were US\$16.2bn (from US\$8.6bn in 2007). Between 2007 and 2016, subsidies were greater (US\$0.005) than the G20 average (\$0.003) per unit of GDP. Subsidies were largely for consumption (79% in 2016) provided through direct budget support and tax exemptions. The largest subsidy is the PIS/CONFINS measure to maintain fixed prices for the import and retail sale of gasoline, diesel, aviation kerosene and natural gas (US\$8.7bn in 2016).



CARBON REVENUES

Brazil is considering implementing a national carbon tax or emissions trading scheme, as well as subnational emission trading schemes in Rio de Janeiro and Sao Paulo. For all of these mechanisms, the level of pricing for permits or taxation has yet to be determined, alongside the proposed start date and sectors covered.



FINANCING THE TRANSITION

BRAZIL

PUBLIC FINANCE

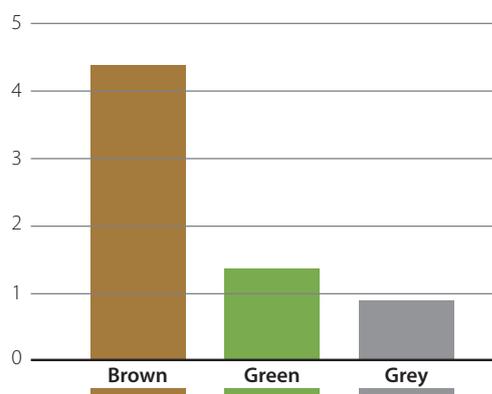
Governments steer investments through their public finance institutions including via development banks, both at home and overseas, and green investment banks. Developed G20 countries also have an obligation to provide finance to developing countries and public sources are a key aspect of these obligations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

NATIONAL AND INTERNATIONAL PUBLIC FINANCE IN THE POWER SECTOR²¹

In 2013 to 2015, public finance institutions spent an annual average of US\$4.4bn on brown, US\$1.4bn on green and US\$0.9bn on grey financing, in the power sector domestically and internationally. The largest transactions included the Brazilian Development Bank's loan to oil exploration and extraction (US\$3.7bn) in 2014, and Petrobras oil storage (US\$4.4bn) in 2013.

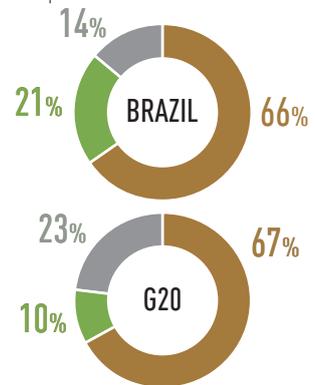
- coal, oil and gas projects (and associated infrastructure) **brown**
- large-scale hydropower, biofuels, biomass, nuclear, incineration, transmission, distribution, storage, energy efficiency, other general electricity support **grey**
- renewable energy projects (excluding grey financing) **green**

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



Source: Oil Change International 2017

Proportion of total public finance to power



PROVISION OF INTERNATIONAL PUBLIC SUPPORT

Brazil is not listed in Annex II of the UNFCCC and is therefore not formally obliged to provide climate finance. Despite this, Brazil has provided international public finance for mitigation given the Global Environment Facility (GEF) Trust Fund's climate change mitigation focus area. While Brazil 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



CONTRIBUTIONS THROUGH THE MAJOR MULTILATERAL CLIMATE FUNDS²²

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
0.93	0%	100%	0%

BILATERAL CLIMATE FINANCE CONTRIBUTIONS²³

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) CO₂ 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 CO₂/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 CO₂ 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

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

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