

ASSESSING CLIMATE PROTECTION PERFORMANCE:
G20 COUNTRY PROFILE

South Africa



This Country Profile assesses South Africa's past and present actions to help mitigate climate change, and its Intended Nationally Determined Contribution (INDC) towards future global action. The profile summarises the respective findings of the Climate Change Performance Index (CCPI)ⁱ and Climate Action Tracker (CAT)ⁱⁱ.

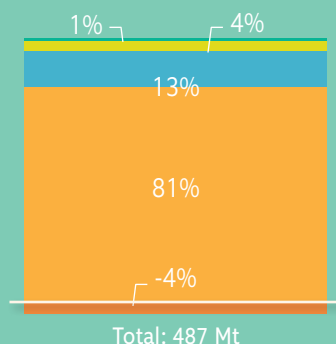
COUNTRY CHARACTERISTICS

KEY INDICATORS*	SOUTH AFRICA	G20
Population [million]	52	4,587
GDP per capita (PPP) [US\$]	10,686	14,505
Share of global GHG emissions**	1.0%	74.2%
Share of global GDP	0.7%	80.3%
Share of global population	0.7%	64.7%
GHG per capita [t CO ₂ e/cap]**	10.9	7.2
Energy intensity of the economy (TPES/GDP [MJ/US\$])	10.9	6.6
Carbon intensity of energy supply (CO ₂ /TPES [t CO ₂ /TJ])	64.2	63.1
Carbon intensity of the economy (CO ₂ /GDP [kg CO ₂ /US\$])	0.67	0.42
Share of fossil fuels in primary energy supply	87%	83.4%
Share of coal in electricity production	93.8%	35.7%
Share of renewables in primary energy supply	10.9%	11.1%

*year 2012 (unless stated otherwise)
GDP = gross domestic product
GHG = greenhouse gas emissions (net emissions including sinks from agriculture, forestry, and other land uses)
TPES = total primary energy supply
PPP = purchasing power parity in prices of 2005

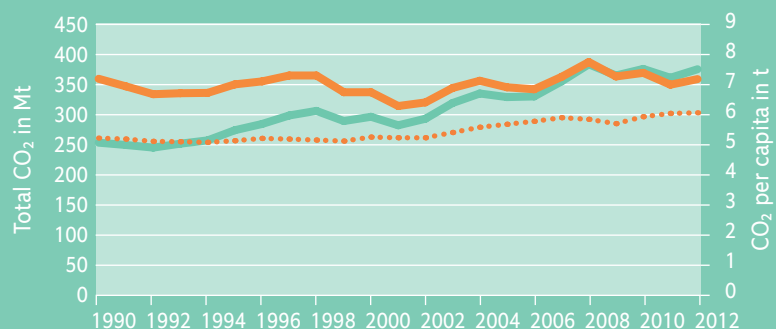
EMISSIONS AND EMISSIONS TRENDS

COMPOSITION OF GHG – SOUTH AFRICA 2010 ENERGY-RELATED CO₂-EMISSIONS – SOUTH AFRICA



F-Gases
N₂O
CH₄

CO₂ incl. LULUCF*
CO₂ from LULUCF**
* from Energy, Industry & other



Total CO₂ Emissions
CO₂ per capita
G20 CO₂ per capita

Source: IEA 2014; **CAT 2015

Source: IEA 2014

Energy and industry-related carbon dioxide (CO₂) emissions accounted for some 81% of South Africa's 487Mt GHG emissions in 2010. Methane (CH₄) accounted for 13%. Per capita CO₂ emissions have remained relatively constant, at about 7t, above the

G20 average. Total emissions have risen slowly but steadily. South Africa is evaluated as a relatively poor performer in the CCPI ranking, with a negative trend.

CCPI EVALUATION OF SOUTH AFRICA'S EMISSIONS



Source: CCPI 2015

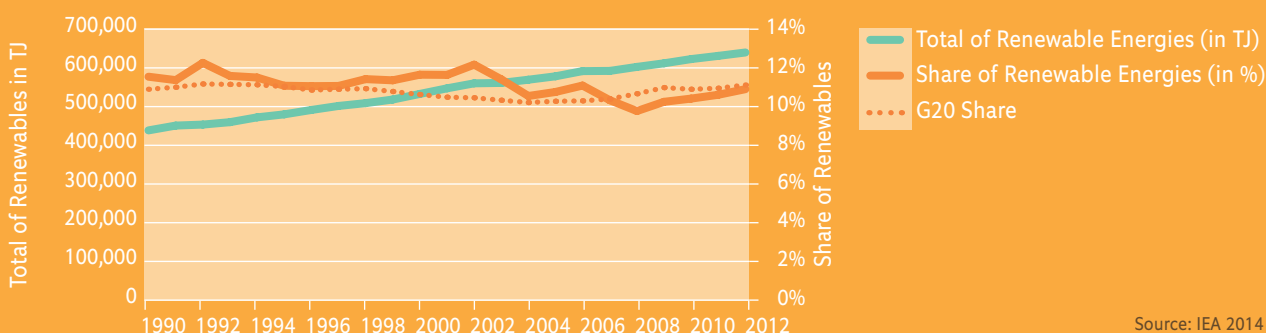
DECARBONISATION

Decarbonisation of the global economy will be a crucial element for staying below the 2°C threshold. Two important steps towards achieving such decar-

bonisation are a shift from fossil fuels to renewable energy sources, and a reduction in carbon and energy intensityⁱⁱⁱ.

RENEWABLE ENERGY

RENEWABLE ENERGY IN SOUTH AFRICA



Source: IEA 2014

Total annual renewable energy production in South Africa has risen strongly since 1990. However, the share of renewables has remained fairly constant, and is slightly below the G20 average. The CCPI eval-

uated South Africa as a medium performer compared with other countries, with a strongly positive trend.

CCPI EVALUATION OF SOUTH AFRICA'S RENEWABLE ENERGY



Source: CCPI 2015

ENERGY- AND CARBON INTENSITY

The measurement of carbon and energy intensity uses macroeconomic data. A country's progress towards decarbonisation is indicated by decoupling of its GDP growth from growth in carbon and energy

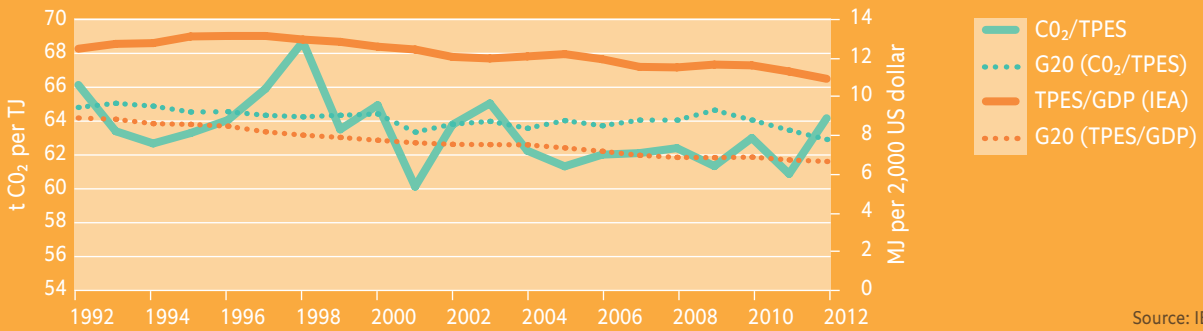
intensity. The latter are measured as CO₂ emissions per unit of Primary Energy Supply (CO₂/TPES) and Primary Energy Supply per unit of GDP (TPES/GDP) respectively.

i Climate Change Performance Index is jointly published by Germanwatch and Climate Action Network Europe, a coalition of over 120 member organizations. The Index is 80% based on objective indicators of emissions trend and level, renewable energies and energy efficiency and 20% on national and international climate policy assessments by more than 300 experts from the respective countries. www.germanwatch.org/en/ccpi

ii Climate Action Tracker is an independent scientific analysis produced by four research organizations: Climate Analytics, Ecofys, the Potsdam Institute for Climate Impact Studies and the NewClimate Institute. www.climateactiontracker.org

iii Another indicator is energy efficiency. However, energy efficiency is complex to measure, requiring a sector by sector analysis, where comparable data sources across G20 countries are not available at present.

ENERGY- AND CARBON INTENSITY IN SOUTH AFRICA



Source: IEA 2014

Both South Africa's carbon intensity of energy supply (CO₂/TPES) and energy intensity of the economy (TPES/GDP) are rather unchanged in recent decades. Both indicators are above the G20 average. The CCPI

ranks South Africa as very poor. The energy intensity of the economy is slowly declining, contributing to a slightly positive trend.

CCPI EVALUATION OF SOUTH AFRICA'S ENERGY AND CARBON INTENSITY



Source: CCPI 2015

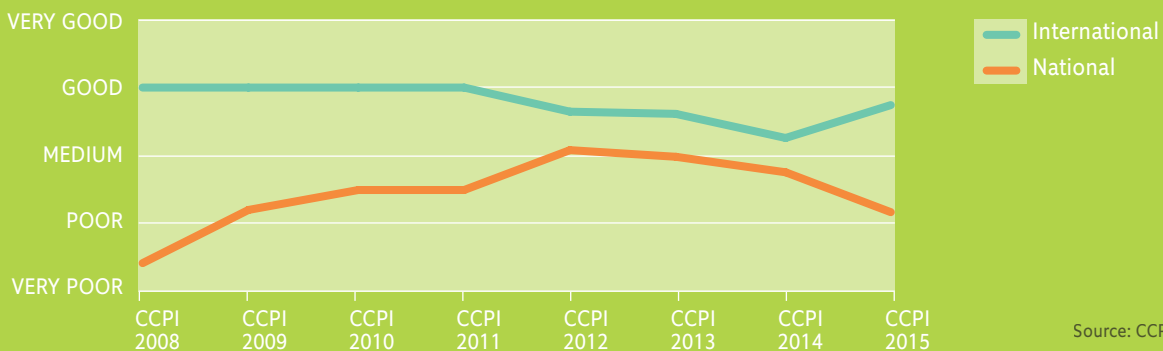
CLIMATE POLICY PERFORMANCE

EVALUATION OF RECENT CLIMATE POLICY

The CCPI evaluates a country's performance in national and international climate policy through feedback from national energy and climate experts.

The experts assess the country's performance in international negotiations, national policy making and in the implementation of climate policies.

SOUTH AFRICA'S CLIMATE POLICY



Source: CCPI 2008-2015

South Africa's international climate policy performance is rated as relatively good. Experts state that national climate policies are good in general, but often contradict energy legislation related to mining

and economic development. In addition, regional and local policies tackling mitigation and adaptation are sometimes more important than national policies.

CCPI EVALUATION OF SOUTH AFRICA'S CLIMATE POLICY



Source: CCPI 2015

COMPATIBILITY OF NATIONAL CLIMATE TARGETS WITH 2°C



Source: © www.climateactiontracker.org/Climate Analytics/Ecofys/ NewClimate/PIK

South Africa submitted its Intended Nationally Determined Contribution (INDC) on 25 September 2015. The INDC includes a target to limit annual greenhouse gas (GHG) emissions to between 398 and 614Mt CO₂e (including Land Use, Land Use Change and Forestry, or LULUCF), over the period 2025–2030. Based on this target, CAT rates South Africa “inadequate”, meaning that if all governments showed such low ambition levels warming would likely exceed 3–4°C.

Currently implemented policies have so far had little effect on the emissions trend compared with business as usual (BAU). Projections based on current policies lead to emissions of 729Mt CO₂e in 2020, excluding LULUCF, equivalent to a 110% increase in emissions above 1990 levels (also excluding LULUCF). In 2030, projections based on current policies suggest a further increase in emissions, to 943Mt CO₂e, excluding LULUCF, representing a 172% increase in emissions compared with 1990 levels (also excluding LULUCF).

CAT EVALUATION OF SOUTH AFRICA'S INTENDED NATIONALLY DETERMINED CONTRIBUTIONS (INDC)

