

Country profile for South Africa¹

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The purpose of this country profile, developed in the framework of Urban-LEDS II project, is to provide a summary of relevant context at the national level, and background information that can feed into the overall project implementation and communication. It is intended to be a “*living document*” that will be updated over time during the project.

The document addresses the following specific requirements:

- To provide background information about the country to guide project implementation at the local level;
- To gain insight into the structures, process, roles and mandates of national, regional and local government levels with the aim to contribute towards vertical integration between national and local governments and to support the implementation of LEDS at the local level;
- To contribute towards the gap analysis and exploring vertical integration solutions with different levels of governments; and

Human activities in cities contribute a significant and growing proportion of global greenhouse gas emissions, driving the demand for energy and other services in urban areas with rapid population growth. UN-Habitat and ICLEI are taking on this challenge by accelerating urban low emission development and climate resilience across more than 60 cities worldwide, using a multilevel governance approach to urban climate action. Through Urban-LEDS, cities develop comprehensive urban Low Emissions Development Strategies and work together to implement their plans and develop pilot projects and finance models for LEDS implementation. Urban-LEDS strengthens cooperation and information sharing across national and local governments, positioning all levels of government to advance, track and deliver on global climate and sustainability goals. www.urban-leds.org

- To establish a dialogue and explore partnerships and networking opportunities with political leaders at all government levels.

Please note that many of the information and indicators of this profile are aligned with the reporting platform [carbonsn@Climate Registry \(cCR\)](http://carbonsn@ClimateRegistry.org) – <http://carbonsn.org>

¹ Urban-LEDS II project Output (Op1.2)





Contents Page

Contents Page	2
1. Overview	3
2. Governance structure	6
3. Relevant national legislation and context	14
4. Assessment of NDC in relation to sub-national government	32
Annex A - Institutional mapping of South Africa	49
Annex B – Climate hazards and critical assets mapping	50
Annex C – National Project Advisory Group (PAG) members	51
Annex D- Institutional Mapping and legislative mandates of key sectors: Water, energy, waste and transport	52

1. Overview

Key information of the country

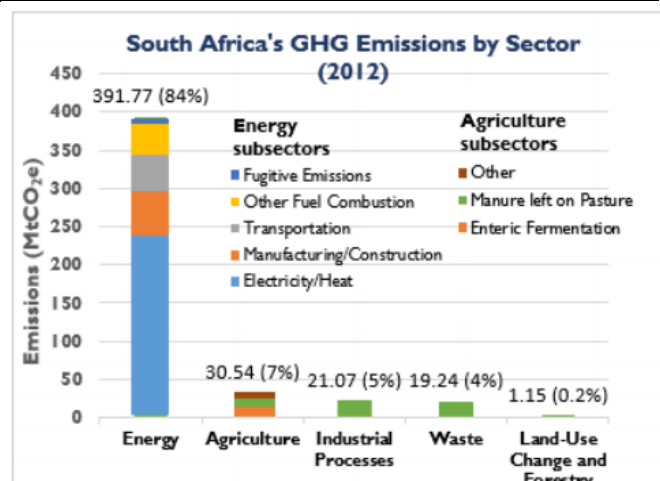
Flag	
Country map with Urban-LEDS II project cities	
Key geographical attributes of the country	<p>South Africa occupies the most southern tip of Africa with its long coastline stretching more than 3 000 km from the desert border with Namibia on the Atlantic coast southwards around the tip of Africa and then north to the border of subtropical Mozambique on the Indian Ocean.</p> <p>The country has more than 290 conservation parks. It is home to almost 300 mammal species, about 860 bird species and 8 000 plant species.</p> <p>The annual sardine run is the biggest migration on the planet.</p> <p>South Africa comprises eight world heritage sites and is divided into eight biomes.</p> <p>Physical features range from bushveld, grasslands, forests, deserts and majestic mountain peaks, to wide unspoilt beaches and coastal wetlands</p> <p>Source : https://www.gov.za/about-sa/geography-and-climate</p>
Size of population (year)	54,841,552 inhabitants Source: World factbook, 2018
Size (km ²)	1,219,912 km ² Source : United Nations Demographic Yearbook (2015) Statistics Division- Demographic and social statistics. https://unstats.un.org/unsd/demographic-social/products/dyb/dyb_2015.cshml
Population density (year)	42.4/km ² (109.8/sq mi)

	<i>Source : Stats SA, 2018</i>
Official language(s)	isiZulu (official) 22.7%, isiXhosa (official) 16%, Afrikaans (official) 13.5%, English (official) 9.6%, Sepedi (official) 9.1%, Setswana (official) 8%, Sesotho (official) 7.6%, Xitsonga (official) 4.5%, siSwati (official) 2.5%, Tshivenda (official) 2.4%, isiNdebele (official) 2.1%, sign language 0.5%, other 1.6% (2011 est.) <i>Source: https://www.gov.za/about-sa/south-africas-people</i>
Major religions	Protestant 36.6% (Zionist Christian 11.1%, Pentecostal/Charismatic 8.2%, Methodist 6.8%, Dutch Reformed 6.7%, Anglican 3.8%), Catholic 7.1%, Muslim 1.5% <i>Source : https://www.gov.za/about-sa/south-africas-people</i>
Time zone	UTC+02:00
GDP per capita (€)	€307,66 billion <i>Source : World Bank, 2017</i>
Annual GDP Growth rate	0.7% (2017 est.) <i>Source : world factbook, 2018</i>
% of population living in poverty	Population below the poverty line 16.6% (2016 est.) Poverty headcount 56,8% <i>Source : StatsSA</i>
Unemployment rate	26.7% in 2018 <i>Source : stats SA</i>
Greenhouse Gas emissions (total in CO ₂ e/year)	South Africa's nett GHG emissions for 2012 amounted to 518,297 Gg CO ₂ e, which includes the contribution from agriculture, forestry and other land-use (AFOLU). The most recent publicly available National Greenhouse Gas emissions Inventory (GHGI) was published for 2012. A GHGI for 2015 is currently being developed by the Department of Environmental Affairs (DEA). <i>Souce : South Africa Biennial Update Report, 2017</i>





Greenhouse Gas emissions by sector



Sources: WRI CAIT 2.0, 2015; FAOSTAT, 2016

GINI Index (World Bank)(year)

0.65 in 2014 based on expenditure data (excluding taxes), and 0.69 based on income data (including salaries, wages, and social grants).

Source:

<https://www.worldbank.org/en/country/southafrica/overview>

Number of cities reporting in carbonn® Climate Registry (cCR)

16 cities

Buffalo City, Cape Town, Tshwane, Durban, Ekurhuleni, Ehime, George, Johannesburg, KwaDukuza, Mbombela, Mogale, Msunduzi, Nelson Mandela Bay, Sol Plaatje, Steve Tshwete, uMhlathuze

2. Governance structure

This section provides information on the governance structure of the country.

The South African governance system is enshrined in the Constitution of 1996, where three spheres of government are identified: National, Provincial and Local Government. Local government is then divided into three categories: Metropolitan, District and Local Municipalities. Each sphere of government is given mandates and functions to carry out and must work cooperatively to align with one another.

The first table shows how governments are appointed, the nature of the relationships between different governments (hierarchical, collaborative and equal, etc), as well as the number of regional and local governments.

- Spheres or Levels of Government

Level of Government	Character	Mandate/Role	Head of government (type)	Appointment (elected or appointed)
National	<p>The Republic of South Africa is a parliamentary representative democratic republic. The President of South Africa serves both as head of state and as head of government.</p> <p>The President is elected by the National Assembly (the lower house of the South African Parliament) and must retain the confidence of the Assembly in order to remain in office. South Africans also elect provincial legislatures which govern each of the country's nine provinces.</p>	<p>National legislative competencies on climate/energy/environment: The Department of Environmental Affairs (DEA) is in charge of the policies and projects relating to the environment and climate change.</p> <p>The energy sector is under</p>	President : Cyril Ramaphosa since 15 February 2018	Elected by popular suffrage. Last election: April 2015, next election in 2020 5-year term

	<p>Executive power is exercised by the government. Legislative power is vested in both the government and the two chambers of Parliament, the Council of Provinces and the National Assembly. The judiciary is independent of the executive and the legislature. Government is three-tiered, with representatives elected at the national, provincial and local levels. The South African Parliament has 490 seats, elected for a five-year term.</p> <p>Since the end of apartheid in 1994 the African National Congress (ANC) has dominated South Africa's politics. The ANC is the ruling party in the national legislature, as well as in eight of the nine provinces (Western Cape is governed by the Democratic Alliance). The ANC received 62.15% of the vote during the 2014 general election. It had received 62.9% of the popular vote in the 2011 municipal election. The main competitor to the ANC is the Democratic Alliance, led by Mmusi Maimane (previously by Helen Zille), which received 22.23% of the vote in the 2014 election. Other major political parties represented in Parliament include the Economic Freedom Fighters and the Inkatha Freedom Party, which mainly represents Zulu voters</p>	<p>the responsibility of the Department of Energy (DoE). The renewable energy and national programs of energy efficiency are competencies of the same Ministry. The water sector is under the responsibility of the Department of Water and Sanitation (DWS).</p> <p>The Department of Cooperative Governance (COGTA) ensures the collaboration between the different levels of Government and supports urban planning and development.</p> <p>National Treasury delivers grants and transfers to local government and assists with the development of budgets for national departments.</p>		
9 Province	South Africa's nine provinces are the Eastern Cape, the Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, the Northern Cape, North West and	The powers of the provincial government are limited to	Premier	Appointed by council of ministers



s	<p>the Western Cape</p> <p>South Africa's provinces are governed as follows:</p> <ul style="list-style-type: none"> At the national level: the National Council of Provinces <p>South Africa has two houses of parliament: the National Assembly, and the National Council of Provinces. The second ensures that the interests of each province are protected in the laws passed by the National Assembly.</p> <p>Each one of South Africa's nine provinces sends 10 representatives to the National Council of Provinces. Six of these are permanent members of the council, and four are special delegates.</p> <ul style="list-style-type: none"> At the regional level : Provincial Governments <p>Each province is governed by a unicameral legislature. The size of the legislature is proportional to population. The legislatures are elected every five years by a system of party-list proportional representation; by convention, they are all elected on the same day, at the same time as the National Assembly election.</p> <p>The provincial legislature elects, from amongst its members, a Premier, who is the head of the executive. The Premier chooses an Executive Council consisting of between five and ten members of the legislature, which is the cabinet of the provincial government. The Members of the Executive Council</p>	<p>specific topics listed in the national constitution. Some of these topics include: agriculture, education, health and public housing.</p> <p>The province's powers are shared with the national government, which can establish uniform standards and frameworks for the provincial governments to follow. On other topics the provincial government has exclusive power.</p> <p>The provinces do not have their own court systems.</p>		
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	<p>(MECs) are the provincial equivalent of ministers.</p> <p>Sources : https://southafrica-info.com/land/nine-provinces-south-africa/#government</p>			
Municipalities	<p>There are 278 municipalities in South Africa, comprising eight metropolitan (category A), 44 district (category C) and 226 local municipalities (category B). They are focused on growing local economies and providing infrastructure and services to communities.</p> <p>The mandate of South African municipalities is defined in the Chapter 7 of the South African Constitution (1994) and on the White Paper on Local Government (1998) and the Municipal Structures Act (1998).</p> <p>Municipalities are broadly responsible of service delivery, governance, financial management, infrastructure development and municipal planning. Further developed in sectoral plans and acts.</p>			
8 Metropolitan municipalities (Category A)	<p>Metropolitan municipalities execute all the functions of local government for a city or conurbation. This is by contrast to primarily rural areas, where the local government is divided into district municipalities and local municipalities.</p> <p>"Category A" municipalities are defined in the Constitution, section 155.1.a and in the Municipal Structures Act.</p>	<p>Metropolitan councils may decentralise powers and functions. However, all original municipal, legislative and executive powers are vested in the metropolitan council.</p> <p>In metropolitan areas, there is a choice of types of executive system: the mayoral executive system where executive authority is vested in the mayor, or the collective executive committee system where these powers are vested in the executive committee.</p>	Mayor	Elected every 5 years
44	A district municipality or	The White paper on Local Government, 1998	Councillors	The district council



<p>District Municipality (Category C)</p>	<p>Category C municipality is a municipality which executes some of the functions of local government for a district. The district municipality will in turn comprise several local municipalities, with which it shares the functions of local government</p>	<p>identified the following four key role that district municipalities should fulfil:</p> <ul style="list-style-type: none"> a) District integrated development planning as a statutory mandate of all district governments; b) To serve as infrastructural development agents, involving planning and developing bulk infrastructure in non-metro municipalities; c) The provision of technical assistance to local municipalities including facilitation the sharing of specialised capacity and equipment between municipalities, assisting in the development of cooperative relations between municipalities, assistance in the preparation of the budgets, consolidated municipal infrastructure programme applications, tenders, drafting by-laws; d) District to the point of coordination for national and provincial capacity building programmes and location of support and training infrastructure. <p>In the field of climate change, districts will often deal with environmental coordination and depending on local municipalities' capacity, they may take on environmental management, air quality and /or disaster management.</p> <p><i>Source: SALGA, the relationship between district and local municipalities and reporting mechanisms.</i></p>		<p>composition : 60 % indirectly elected councillors from the local councils in proportion to their size and 40 % directly elected councillors in terms of a proportional representation (PR) system.</p> <p><i>Source : https://dullahomarinstitute.org.za/multilevel-govt/publications/district-municipalities.pdf</i></p>
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		https://www.salga.org.za/Documents/NMMF%202016/Reporting%20between%20Districts%20and%20Locals.pdf		
226 Local Municipalities (category B)	<p>Local municipalities serve as the third, and most local, tier of local government.</p> <p>A local municipality is governed by a municipal council elected by voters resident in the municipality on the basis of mixed-member proportional representation.</p> <p>There are three different systems by which the executive government of the municipality may be structured. In the plenary system, executive powers are vested in the full council, and the mayor is chairperson of the council.</p> <p>In the collective system, executive powers are vested in an executive committee elected by the council. In this system, the members of the executive committee are drawn from all parties in proportion to their</p>		Mayor	Elected



representation on the council, and the mayor is chairperson of the executive committee. In the mayoral system, executive powers are vested in a mayor elected by the council. The mayor may appoint a committee to whose members he or she may delegate particular responsibilities.

*Source : National Treasury (2011)
delivering municipal services in rural areas
<http://www.treasury.gov.za/publications/igfr/2011/15.%20Rural%20services%202011%20LGBER%20-%20Final%20-%209%20Sept%202011.pdf>*



- List of key actors and map institutions of the country

Please list the key actors at the national level add intro to the map of the institutional framework of the country, to be compiled following the example of South Africa (Annex A)

In South Africa, the key actors of the low carbon transition and climate change fields at the national level are the following :

- Department of Energy (DoE)
- Department of Environmental Affairs (DEA)
- Department of Cooperative Governance (COGTA)
- Department of Water and Sanitation
- Eskom
- NERSA
- Department of Transport
- National Treasury
- PRASA :Passenger Rail Agency of South Africa
- Transnet
- Metrorail
- Development Bank of South Africa
- South African Local Government Association (SALGA)

Kindly refer to the institutional mapping of the country in Annex A of this document.

3. Relevant national legislation and context

Please list legislations, governing policies, documents and plans with hyperlinks, including relevant targets or indicators, on the following areas:

Sector	Legislation / policy/ plan name	Brief description	Year adopted	hyperlink	Key related statistics
Climate	Nationally Determined Contribution	<p>Based on the 2011 National Climate Response Policy (NCCRP) and the National Development Plan (NDP) (NPC, 2012).</p> <p>SA's INDC describes SA's national priorities in the field of both adaptation and mitigation, sets out SA's mitigation commitment to reduce SAs greenhouse gas emissions; sets out SAs commitments to take action to adapt to the impacts of climate change; highlights the means of implementations which include an outline of the costs associated with SA reducing their emissions and adapting to climate impacts (DEA, 2016; UNFCCC, 2015).</p>	2015	http://www4.unfccc.int/ndcregistry/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf	



	<p>National Climate Response Policy (NCRP) or National Climate Change Response White Paper (NCCRWP)</p>	<p>The National Climate Change Response Policy is a policy response that is intended to promote adaptation and mitigation measures that will make development more sustainable, both in socio-economic and environmental terms, with the following objectives:</p> <ul style="list-style-type: none"> -To effectively manage inevitable climate change impacts through interventions that build and sustain SouthAfrica's social, economic and environmental resilience and emergency response capacity. -To make a fair contribution to the global effort to stabilise greenhouse gas (GHG) concentrations in the atmosphere within a time frame that enables environmentally sustainable socio-economic development. <p>In respect of adaptation, the policy advocates for the use of a risk-based approach to identify and prioritize short to medium term adaptation interventions to be outlined in sector plans. It recognizes the use of ecosystem services for society to adapt to climate change; known as Ecosystem based Adaptation (EbA). It recognises that South Africa can only reach the desired climate change policy response with requisite</p>	2011	<p>https://www.gov.za/sites/www.gov.za/files/national_climatechange_response_whitepaper_0.pdf</p>	
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		support in finance, technology and technology transfer and capacity building.			
	National Adaptation Strategy (NAS) (draft version)	<p>South Africa's (draft) National Adaptation Strategy (NAS) "is intended to be the cornerstone for climate change adaptation in the country and to reflect a unified, coherent, cross-sectoral, economy-wide approach to climate change adaptation" (DEA, 2016).</p> <p>It recognizes the likely impacts that climate change will have on socio-economic development and its potential to undo many hard-won development gains made in the past two decades, and advocates for the integration of climate change adaptation responses in all of South Africa's economic systems and sectors. The vision of the NAS is:</p> <ul style="list-style-type: none"> -To transition to a climate resilient South Africa, which will follow a development pathway guided by an ongoing process of anticipating, planning for and adjusting responses to changes in 	2016	DEA. 2016. South Africa National Adaptation Strategy: Draft for comments. [Online]. Available: https://www.environment.gov.za/sites/default/files/docs/nas_2016.pdf	



		<p>climate and the environment, as informed by priority development needs. It notes that <i>'Adaptation responses will be developed through collaborative processes and supported by the best scientific information available. Institutional arrangements for climate change adaptation will facilitate coordinated implementation that optimises development outcomes, necessary transformation, and the interlinked needs of adaptation and mitigation imperatives'</i>.</p> <p>-The NAS sets out priority areas for responding to climate change (see Table 2) and provides guidance for adaptation efforts in South Africa, including the likely funding requirements of the identified priorities. It further identifies the water, agriculture, forestry, fisheries, biodiversity and ecosystems, human settlements, health, disaster management, mining and extractives, energy, and transportation and public infrastructure sectors as priorities for adaptation action.</p> <p>An important objective of the NAS is to 'allow resources to be sought and allocated in a more deliberate way'</p>			
	Draft climate change Bill	<p>The Draft Climate Change Bill was published for comment on 8 June 2018. It's stated objectives are the following:</p> <p>-Provide for the coordinated and integrated</p>	2018		



		<p>response to climate change and its impacts by all spheres of government in accordance with the principles of cooperative governance;</p> <ul style="list-style-type: none"> - Provide for the effective management of inevitable climate change impacts through enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to building social, economic, and environmental resilience and an adequate national adaptation response in the context of the global climate change response; - Make a fair contribution to the global effort to stabilise greenhouse gas concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe and in a manner that enables economic, employment, social and environmental development to proceed in a sustainable manner 			
Energy	Integrated Resource Plan (IRP)	<p>The Integrated Resource Plan in the South African is a National Electricity Plan. It is a subset of the Integrated Energy Plan.</p> <p>It is a plan that directs the expansion of the electricity supply over the given period.</p> <p>The Long-term Electricity Planning goal is to ensure sustainable development considering technical, economic and social constraints and various externalities.</p> <p>In theory, identification of the requisite investments in the electricity sector that maximize the national interest.</p> <p>In practice - identification of the investments in the</p>	2010 Updated version submitted for comments in 2013, 2016 and 2018	Draft IRP 2018 for comments : http://www.energy.gov.za/IRP/irp-update-draft-report2018/IRP-Update-2018-Draft-for-Comments.pdf	

		electricity sector that allows the country to meet the forecasted demand with the minimum cost to the country.			
	Renewable Independent power producer programme	The South African Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) is a competitive tender process that was launched to facilitate private sector investment into grid-connected renewable energy (RE) generation. It has been a success in terms of capacity, investment and price outcomes. Bid tariffs have fallen sharply over the course of the programme and the most recently awarded projects are amongst the lowest priced grid-connected RE projects in the world.	2011	http://www.energy.gov.za/files/policies/Renewable-Energy-IPP-Procurement-Programme-2015-Determination.pdf	
	Draft Post-2015 National Energy Efficiency Strategy (NEES)	The Vision of the NEES is “Reducing the energy intensity of the economy through energy efficiency”. Achievement of this vision will assist in fulfilling the following national objectives: enhancing energy security by making better use of existing and new generation capacity. Improving South Africa’s global competitiveness through reduced energy input cost. Decoupling growth in energy consumption (and GHG emissions) from growth in GDP. Improving global competitiveness will, in turn, contribute to job creation.	2016	https://cer.org.za/wp-content/uploads/2017/01/National-Energy-Efficiency-Strategy.pdf	
	Integrated Energy Plan	The IEP aims to guide future energy infrastructure investments, identify and	2016	http://www.energy.gov.za/files/l	

	(IEP)	recommend policy development to shape the future energy landscape of the country.		<i>EP/2016/Integrated-Energy-Plan-Report.pdf</i>	
Mobility	Draft green transport strategy (2017-2050)	<p>The objectives of the GTS include:</p> <ol style="list-style-type: none"> 1. Enabling the transport sector to contribute its fair share to the national effort to combat climate change in a balanced fashion, taking into account the DoT and the sector's primary responsibility of promoting the development of the efficient integrated transport systems to enable socio- economic development. 2. Promoting sustainable and cleaner mobility development, 3. Engaging the low carbon transition of the sector, to assist with the aligning and developing policies which promote energy efficient and less carbon intensive mobility. 4. Facilitate the sector's just transition to a climate resilient and low carbon economy and society." <p><i>Department of transport, 2017</i></p>	2017	https://www.gov.za/sites/default/files/41064_gon886.pdf	<p>See table below</p> <ul style="list-style-type: none"> • Modal split, • Access to public transport • % of transport sector consumption delivered by renewables • Etc •
Buildings	The SANS 10400-XA Regulations	<p>The amended South African National Building Regulations require the following:</p> <ul style="list-style-type: none"> • XA1 – buildings are to use energy efficiently and reduce greenhouse gas emissions in accordance with a set of requirements. • XA2 – not more than 50% of the annual volume of domestic hot water should be supplied by means of electrical resistance heating, ie 50% or more of hot water used must be heated by 	https://www.nedbank.co.za/content/dam/nedbank/site-assets/AboutUs/GreenandCaring/SANS%20Guide%20-%20Homeow	2011	<ul style="list-style-type: none"> • % informal households • Housing deficit/backlog • etc

		<p>energy sources other than electricity.</p> <ul style="list-style-type: none"> • XA3 – compliance with the XA1 Regulations must be achieved by one of three methods. If practitioners build in accordance with SANS 10400-XA, the buildings will be 'deemed to comply' with National Building Regulation XA1. The South African government is bound to promote and defend the implementation of these regulations through the mechanisms and procedures used to control new buildings. This responsibility lies with municipalities and, more specifically, with Building Control Officers. 	ners%20final.pdf		
Waste management	National Environmental Management: Waste Act 59 of 2008	<p>The NWMS is structured around a framework of eight goals</p> <ul style="list-style-type: none"> -Promote waste minimisation, re-use, recycling or recovery. waste. -Ensure the effective and efficient delivery of waste services. -Grow the contribution of the waste sector to the green sector economy Ensure that people are aware of the impacts of waste on their wealth, well-being and the environment -Achieve integrated waste management planning -Ensure sound budgeting and waste financial management for waste services -Provide measures to remediate contaminated land. -Establish effective compliance with and enforcement of the waste act 	2012	https://cer.org.za/wp-content/uploads/2012/06/National-Waste-Management-Strategy-as-implemented.pdf	<ul style="list-style-type: none"> • Per capita waste generation • % recycling rate • etc <p>see the table below</p>

Water	National Water Act of 1998	<p>The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors: promoting equitable access to water; redressing the results of past racial and gender discrimination; promoting the efficient, sustainable and beneficial use of water in the public interest; facilitating social and economic development; protecting aquatic and associated ecosystems and their biological diversity; meeting international obligations.</p> <p><i>Source : http://portal.unesco.org/en/ev.php-URL_ID=47385&URL_DO=DO_TOPIC&URL_SECTION=201.html</i></p>	1998	http://www.dwa.gov.za/Documents/Legislature/nw_act/NWA.pdf	<ul style="list-style-type: none"> • % access to water & sanitation • etc
	National Water Resource Strategy (NWRS2)	<p>This National Water Resource Strategy 2 sets out the following core objectives:</p> <ul style="list-style-type: none"> • water supports development and the elimination of poverty and inequality • water contributes to the economy and job creation, and • water is protected, used, developed, conserved, managed and controlled sustainably and equitably. <p>The major focus of the NWRS2 is equitable and sustainable access and use of water by all South Africans while sustaining our water resource. Equity and redistribution will be achieved through the authorisation process and other mechanisms and programmes, such as water</p>	2013	https://cer.org.za/news/national-water-resource-strategy	

		allocation reform, financial support to emerging farmers and support to urban and rural local economic development initiatives. <i>Source :</i> http://www.dwa.gov.za/documents/Other/Strategic%20Plan/NWRS2-Final-email-version.pdf			
Sustainable development	National Framework for Sustainable Development	The purpose of this Framework is to enunciate South Africa's national vision for sustainable development and indicate strategic interventions to re-orientate South Africa's development path in a more sustainable direction. It does not present detailed strategies or actions, but rather proposes a national vision, principles, trends, strategic priority areas and a set of implementation measures that will enable and guide the development of the national strategy and action plan (Department of Environmental Affairs & Tourism, 2008: 7).	2008		
	National Development Plan (NDP) 2030	The NDP aims to achieve the following objectives by 2030: Uniting South Africans of all races and classes around a common programme to eliminate poverty and reduce inequality. Encourage citizens to be active in their own development, in strengthening democracy and in holding their government accountable. Chapter 5 of the NDP presents South Africa's vision of a lower carbon economy where:	2012	http://www.dac.gov.za/sites/default/files/NDP%202030%20-%20Our%20future%20-%20make%20it%20work_0.pdf	

		<ul style="list-style-type: none"> • there is reduced dependency on carbon, natural resources and energy • carbon emissions are reduced to sustainable levels, and • economic activity is expanding, but decoupled from carbon-intensive, fossil-based, energy <p>The chapter also introduces the concept of just transition.</p>			
				https://showme.co.za/vaal/files/2014/08/The-New-G	set job creation as a country priority, aimed at reducing unemployment by 10 percentage points by 2020, down from the current rate of 25 per cent.
Air quality	Air Quality Act, 2004 (Act No. 39 of 2004) National Greenhouse Gas Emission Reporting Regulations. Notice 275 of 2017	<p>The overall objectives of this law are :</p> <ul style="list-style-type: none"> -to reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; -to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto. 	2004	https://www.environment.gov.za/sites/default/files/legislations/nemaqa39of2004_national_greenhousegas_emissionreporting_gn40762.pdf	Annual/daily particulate matter/N02/S02 averages



Land use	Spatial Planning and Land Use Management Act (SPLUMA)	The law gives the Department of Rural Development and Land Reform (DRDLR) the power to pass Regulations in terms of SPLUMA to provide additional detail on how the law should be implemented. SPLUMA aims to develop a new framework to govern planning permissions and approvals, sets parameters for new developments and provides for different lawful land uses in South Africa. SPLUMA is a framework law, which means that the law provides broad principles for a set of provincial laws that will regulate planning. SPLUMA also provides clarity on how planning law interacts with other laws and policies.	2015	https://cer.org.za/virtual-library/legislation/national/landuseandplanning/spatial-planning-and-land-use-management-act-2013-2	<ul style="list-style-type: none"> • % human settlements VS other land use • Ecosystem services • etc
Biodiversity	National Environmental Management Biodiversity Act, 2004	The Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant protection; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute, etc.	2004	https://www.environment.gov.za/sites/default/files/legislations/nema_amendment_act10.pdf	<ul style="list-style-type: none"> • Endangered species • Natural parks • Ecosystem services • etc
Food & agriculture	National Development Plan	The National Development Plan (NDP) identifies agriculture as primarily an economic activity in rural areas with the potential to create one million new jobs by 2030. The plan proposes several approaches to land reform and its financing.	2012		<ul style="list-style-type: none"> • Number of jobs created by the food sector in urban and rural area • Budget allocated



		<p>The NDP calls for greater investment in</p> <ul style="list-style-type: none"> (1) the agricultural and agro-processing sectors; (2) areas of small, medium and micro-enterprise growth to create jobs and redress skewed ownership patterns; and (3) fruit and vegetable production in order to better align the sector to nutritional intake guidelines. 			<p>to projects related to food</p> <ul style="list-style-type: none"> • Is agriculture a land use category in the country planning? • etc
	National Policy on food and security	<p>National Policy on Food and Nutrition Security (DAFF 2014).</p> <p>Objective : to increase food production and distribution, and supporting community-based and smallholder production.</p> <p>Five pillars underpin the policy strategies including:</p> <p>A need for state, private and non-governmental actors to improve nutritional safety nets by:</p> <ul style="list-style-type: none"> a. Better nutritional education; b. Increased agricultural investment, particularly in rural areas, to improve the efficiency of food storage and distribution networks, and access to inputs; c. Better market emerging farmer participation through public-private partnerships; and d. Food security risk management. <p>Source : https://www.plaas.org.za/sites/default/files/publications-pdf/WP39Drimie_0.pdf</p>	2014		



INDICATORS :

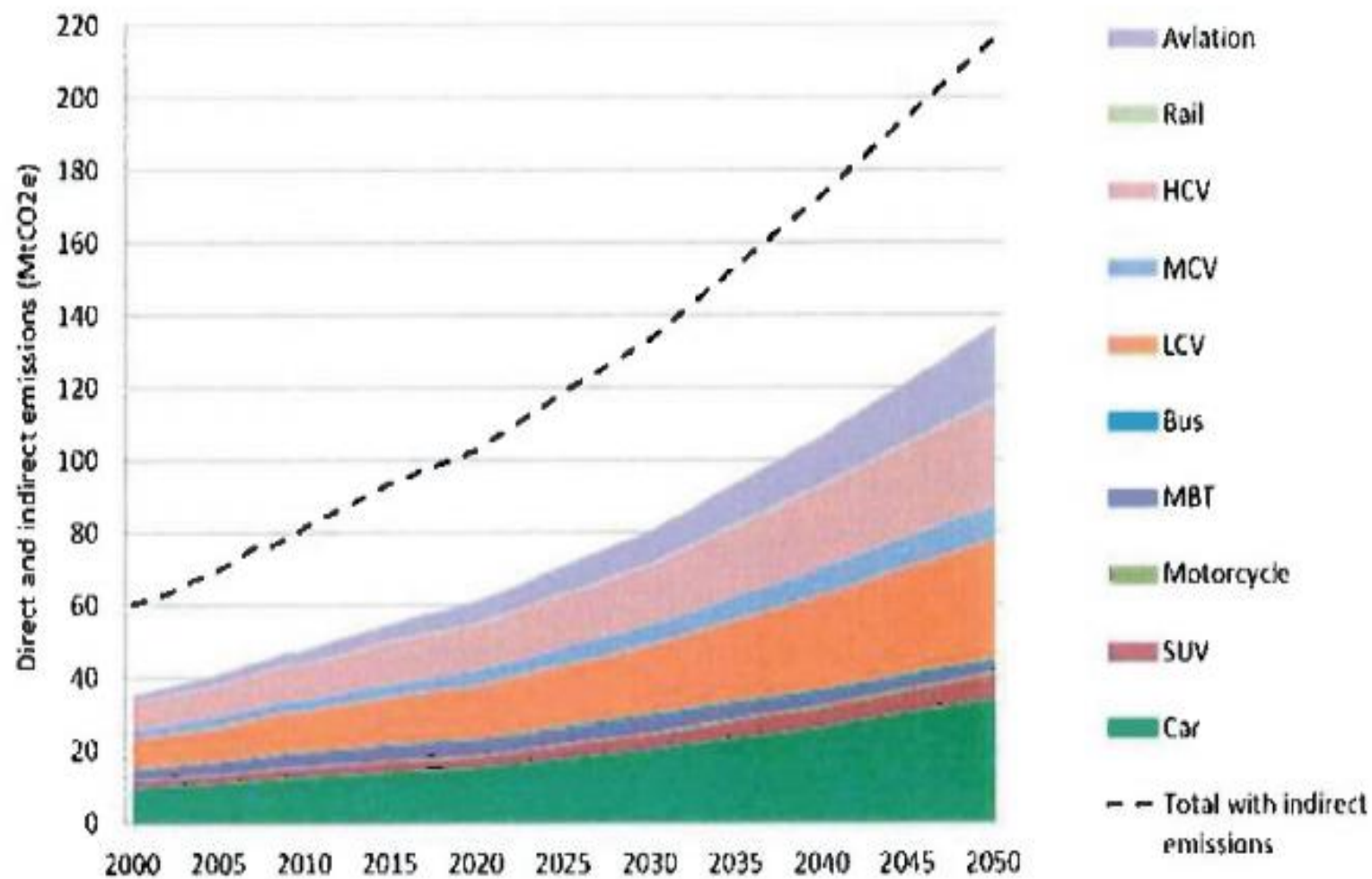
1) Green transport strategy (GTS)

The objectives of the GTS include:

1. Enabling the transport sector to contribute its fair share to the national effort to combat climate change in a balanced fashion, taking into account the DoT and the sector's primary responsibility of promoting the development of the efficient integrated transport systems to enable socio- economic development.
2. Promoting sustainable and cleaner mobility development,
3. Engaging the low carbon transition of the sector, to assist with the aligning and developing policies which promote energy efficient and less carbon intensive mobility.
4. Facilitate the sector's just transition to a climate resilient and low carbon economy and society."

- a) The figure below illustrates GHG emissions from the transport sector between 2000 and 2050 taking into account existing and currently planned policies. On the basis of this projection, it is apparent that a radical shift within the transport sector is required:





2. Estimated mitigation potential and cost

	2020		2030		2050	
Modal shift	ktCO ₂	R/tCO ₂	ktCO ₂	R/tCO ₂	ktCO ₂	R/tCO ₂
Road – passengers, pvt vehicle to public transport	820	3,105	3,087	729	9,396	-1,128
Road – freight, road to rail	1,840	1,375	2,729	2,085	2,997	1,497

Source: GIZ mitigation potential analysis on behalf of DEA 2014

ktCO ₂ - Kilotonne of Carbon dioxide	R/tCO ₂ - Rand per tonne of Carbon dioxide
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Source : https://www.gov.za/sites/default/files/41064_gon886.pdf#indicators

b) Indicators - National Environmental Management Waste Act- NWMS (2008)

The NWMS is structured around a framework of eight goals :

- Promote waste minimisation, re-use, recycling or recovery. waste.
- Ensure the effective and efficient delivery of waste services.
- Grow the contribution of the waste sector to the green sector economy
- Ensure that people are aware of the impacts of waste on their wealth, well-being and the environment
- Achieve integrated waste management planning
- Ensure sound budgeting and waste financial management for waste services
- Provide measures to remediate contaminated land.
- Establish effective compliance with and enforcement of the waste act.

The indicators are as follows:

Goal 1: <i>Promote waste minimisation, re-use, recycling and recovery</i>	Proposed indicators	Targets (2016)
Objective 1: <i>Promote waste minimisation in the design, composition, and manufacturing of products</i>	<i>Targets and measures for waste minimisation in the paper and packaging industry, pesticide industry, lighting industry and waste tyre industry”s IndWMPs</i>	<i>Full achievement of targets set in the four IndWMPs</i>
Objective 2: <i>Promote re-use, recycling and recovery</i>	<i>% of recyclables diverted from landfill sites for re-use, recycling and recovery</i>	<i>25% of recyclables diverted from landfill sites for re-use recycling or recovery² by 2015</i>
	<i>No. of municipalities in which separation of waste at source initiatives are being implemented</i>	<i>All metropolitan municipalities, secondary cities and large towns³⁹ have initiated separation at source programmes by 2015.</i>

Goal 2: <i>Ensure the effective and efficient delivery of waste services</i>	Proposed indicators	Targets (2016)
Objective 1: <i>Progressively expand access to waste services to at least a basic level of service</i>	<i>% of households receiving basic waste collection services</i>	<i>95% of urban households and 75% of rural households have access to adequate levels of waste collection services</i>
Objective 2: <i>Safe disposal of waste in licenced landfill sites</i>	<i>% of licenced waste disposal sites</i>	<i>80% of waste disposal sites have licences</i>
Goal 3: <i>Growing the contribution of the waste sector to the green economy</i>	Proposed indicators	Targets (2016)
Objective 1: <i>Stimulate job creation in the waste sector</i>	<i>No. of new jobs created in the waste sector</i>	<i>69 000 new jobs created in the waste sector¹</i>

Source : https://www.environment.gov.za/sites/default/files/docs/nationalwaste_management_strategy.pdf



4. Assessment of NDC in relation to sub-national government

Publication date of latest NDC	25 September 2015
Lead agency/ Ministry	Department of Environmental Affairs (DEA)
Governance structures for implementation	DEA developing the M&E system in accordance with the international requirements including the NDC
To what extent are a) Sub-national government b) Urbanisation/urban relevant sectors ² mentioned in the NDC?	<p>There are five mentions of the role of subnational governments in the NDC.</p> <p>These mentions mostly refer to policy alignment.</p> <p>However, despite the fact that a few municipalities- especially metropolitan cities- were consulted during the drafting phase of the NDC, the urban content remains low if we refer to the methodology and indicators developed by UN Habitat in its publication "Sustainable Urbanization in the Paris Agreement" (2017).</p> <p>Municipalities are mostly perceived as implementers of national policies and plans but their priorities were insufficiently taken into consideration to set up the objectives of the NDC.</p>
Do any urban-related NAMA's or NAP's, or coordinated urban/climate programs, targeted at sub-national	<p>V-NAMA project in the building sector implemented by the South-African government and the GIZ between 2012 and 2015, to strengthen the collaboration between the different levels of Government in the building sector</p> <p>Source: http://www.solutions-gateway.org/images/vnamas/1/v-nama-case_study_south_africa_2014(1).pdf</p>

² Data for your country may be found in UN-Habitat's recent publication: <https://unhabitat.org/books/sustainable-urbanization-in-the-paris-agreement/>



<p>government, exist? If so name them here</p>	<p>One of the priorities of the Integrated Urban development Framework (IUDF) is urban resilience. Activities to implement the IUDF at the municipal level are currently taking place.</p> <p>Climate change bill (2018) provides that provincial and local climate change plans must be developed at the local level and aligned with national and international climate change objectives.</p>
<p>Briefly describe the Monitoring, Reporting and Verification system that exists/being planned for climate action.</p>	<p>According to the second national Biennial Update report submitted to the UNFCCC in 2017, South Africa is developing a comprehensive National Climate Change Response Monitoring and Evaluation System (BUR, 2017). This system will include the current National Climate Change Response Database (NCCRD), the National Greenhouse Gas Inventory System (NGHGIS) and will serve as a data and information coordination network.</p> <p>In South Africa, Measurement, Reporting and Verification (MRV) is framed in terms of “Monitoring and Evaluation” (M&E). The ‘monitoring’ component of M&E is viewed to encompass MRV as a whole, while the ‘evaluation’ component focuses on the continuous assessment of the implementation and success of responses to climate change. The M&E system is based on three pillars as described in the graph below:</p>



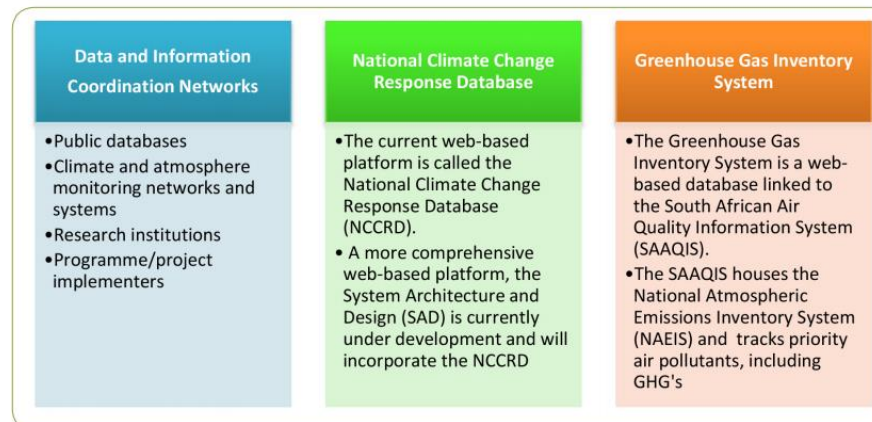


Figure 27 : Main elements of South Africa's Climate Change MRV system

Main elements composing the South African MRV system -Source: South Africa's second biennial update report, 2017

Sources

https://www.environment.gov.za/sites/default/files/reports/nationalclimatechangeresponse_MESF.pdf

https://www.unfccc.int/files/national_reports/non-annex_i_parties/biennial_update_reports/application/pdf/south_africa_2nd_bur.pdf

What are the major barriers identified preventing sub-national involvement in implementation of the NDC and related policies?

- Lack of information of the municipalities on the content and implementation phase of the NDC.
- Lack of clarity of the mandate of the different tiers of Government in the field of climate change
- No policy or guidelines on the implementation of the NDC: a NDC implementation plan is recommended
- The NDC could have a technical annex with clear targets for cities to contribute towards the achievements of these

	<p>targets</p> <ul style="list-style-type: none">• Lack of access to funding mechanisms, especially for secondary cities, to reach the objectives set out in the NDC
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How can local and regional governments help national governments (including ministries of climate change and urbanization) to seize the potential of sustainable and integrated urban and territorial development in the implementation of the NDC of your country?

- South African municipalities are already developing ambitious climate change plans and actions (Ziergovel, 2018) that could be better taken into consideration by policy-makers at the national level.
- Integrated Development Strategies (IDPs) are crucial tools to mainstream climate change across the different municipal Departments and to foster multi-level governance of climate change from the bottom-up as explained by Harrison (2001) who views IDPs as *'strategic, holistic and multi-sectoral plans which guide the future development of the region, giving direction to both the municipality and other spheres of government operating in the area'* (Harrison, 2001: Ruwanza et.al, 2016).
In fact, IDPs are taken into consideration by the different levels of Government in the elaboration of their policies and plans.
- The municipal and provincial climate change plans foreseen in the draft Climate change Bill (2018) could also inform the national policy-makers on the activities undertaken at the local level.

What are the options to integrate commitments and actions of local and regional governments in to current and future NDCs of this country?

- The national Government could collect more information on climate action undertaken at the local and provincial levels via their M&E System (See MLG study)
- Reinforce the consultation process with municipalities during the review of the NDC
- Involve SALGA (the South African Local Government Association) in the NDC negotiation at the national level. The organisation carries the voice of municipalities at the national level.



How can your national government collaborate with local and regional governments to mobilize appropriate capacity building, technical, financial resources and policy/legal framework to realize solutions addressed in delivering and raising ambition; in 2018, towards 2020, towards 2050?

5. List of Project Advisory Group (PAG) members

Name	Institution	Designation
Telly Chauke	South African Local Government Association (SALGA)	Environment and Climate Change
Cecilia Kinuthia-Njenga	United Nations Environment	Head of sub-regional and regional offices
Faith Nkohla	Department of Environmental Affairs	Climate Change and Air Quality Directorate
Nomkita Fani	Department of Cooperative Governance and Traditional Affairs	IUDF Implementation Unit
Hilton Trollip	Energy Research Centre at the University of Cape Town	Senior Researcher



6. Financial System

The main sources of climate finance for South African municipalities are the following: multilateral (including the climate funds such the Green climate fund, the adaptation fund, the Global Environmental Facility Trust fund...), bilateral (International Cooperation Partners) and domestic (annual budgets, intergovernmental grants, climate or green funds, etc).

- National Budget
 - Brief summary of latest national budget and expenditure.

Table 1.4

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Source: Na

The National Treasury projects real GDP growth of 1.5 per cent in 2018, 1.8 per cent in 2019 and 2.1 per cent in 2020.

Table 1.1 Macroeconomic outlook – summary

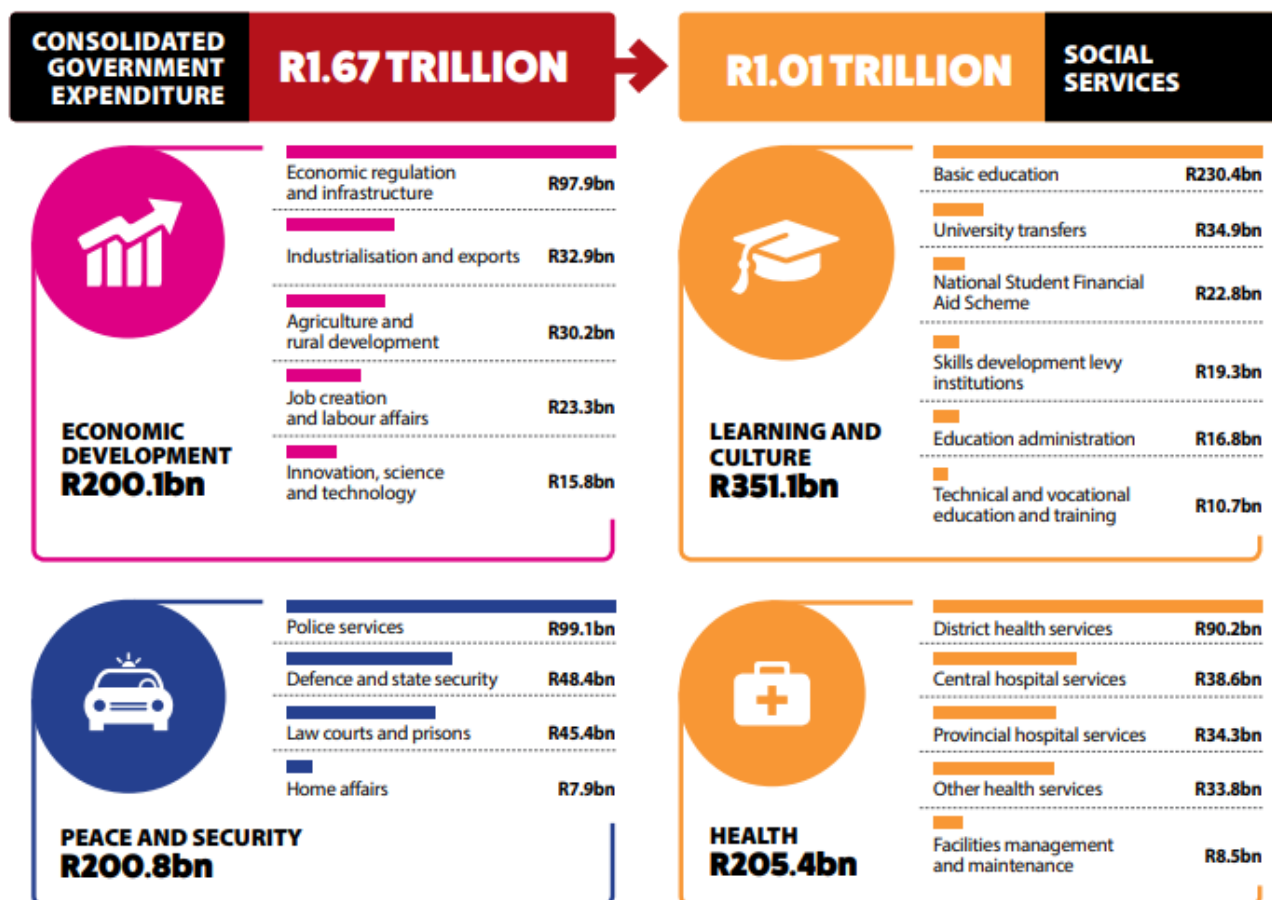
	2017	2018	2019	2020
	Estimate	Forecast		
Real percentage growth				
Household consumption	1.3	1.7	1.9	2.3
Gross fixed-capital formation	0.3	1.9	3.3	3.7
Exports	1.5	3.8	3.4	3.5
Imports	2.7	4.4	4.6	4.5
Real GDP growth	1.0	1.5	1.8	2.1
Consumer price index (CPI)	5.3	5.3	5.4	5.5
Current account balance (% of GDP)	-2.2	-2.3	-2.7	-3.2

Across all tables in the Budget Review, the use of "0" refers to a value of small magnitude that is rounded up or down to zero. If a value is exactly zero, it will be denoted by "-". If data is not available it is denoted by "N/A"

Source: National Treasury

Source : Budget review 2018, National Treasury, Republic of South Africa, 21 February 2018

<http://www.treasury.gov.za/documents/national%20budget/2018/review/FullBR.pdf>





2018/2019 budget expenditure

Adapted from National Treasury, 2018 budget highlights

<http://www.treasury.gov.za/documents/national%20budget/2018/sars/Budget%202018%20Highlights.pdf>

- Grants available to local governments

The following grants, regulated by the Division of Revenue Act, are available to local government for financing infrastructure and service delivery:

- **Integrated Urban Development Grant:** new grant provided by the Integrated urban development framework which aims to provide funding for public investment in infrastructure for the poor and to promote increased



access to municipal own sources of capital finance in order to increase funding for investment in economic infrastructure.

- **Municipal Infrastructure Grant (MIG):** capital financing for basic municipal infrastructure which includes poor communities
- **Energy efficiency demand-side management grant:** funding for energy efficiency projects related to municipal buildings, traffic lights, streetlight and water pumps
- **Integrated city development grant:** only for metropolitan cities and focus on investment
- **Human Settlements Grant**
- **Urban Settlements Development Grant** (Metropolitan Municipalities only)
- **Regional bulk infrastructure grant:** for water and wastewater projects
- **Neighbourhood development partnership grant for cities**
- **Public transport network grant:** allocated on a project basis for public and non-motorised transport in metros
- **Integrated national electrification programme grant:** for electrification and installation of solar home systems of non-electrified formal houses
- **Equitable share transfer:** for provision of basic services to the poor.

Source : <http://journals.sagepub.com/doi/abs/10.1177/0269094217721683?journalCode=leca>

• Climate finance

Please add intro on to what extent is climate finance being applied for and/or used in the country (Please make sure this is aligned with WP2 study on multi-level governance – same question)

The table below identifies any national mechanisms by which local governments can access climate finance, e.g., via a national climate fund and/or a dedicated revenue transfer.

Key funds available	Relevant accredited entities	Brief description of fund	Amount of funding (€)



Green Climate Fund	<p>Development Bank of South Africa (DBSA) South African National Biodiversity Institute (SANBI)</p> <p>For more details on SANBI's accreditation profile: https://www.sanbi.org/wp-content/uploads/2018/04/sanbi-gcf-funding-frameworkoctober-2017.pdf</p> <p>For more details on DBSA's GCF accreditation profile : https://www.greenclimate.fund/-/development-bank-of-southern-africa</p>	<p>The Green Climate Fund was established by decision of UNFCCC COP 15 to scale up climate finance funding by raising USD 100 billion a year by 2020. At the GCF Board meeting held in Cape Town in February 2016, the Board adopted the following as the vision for the Fund:</p> <p>To support the implementation of the Paris Agreement in developing countries: -</p> <ul style="list-style-type: none"> by enhancing adaptive capacity and fostering resilience and making financial flows consistent with low greenhouse gas emission and climate resilient development; and by making Intended Nationally Determined Contributions (INDCs) the important reference point for the Fund's programming. <p>In South Africa, the two accredited entities are SANBI</p>	<p>To date, just under € 9.05 billion pledge for both mitigation adaptation activities.</p>
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		and DBSA	
Adaptation Fund (AF)	South African National Biodiversity Institute (SANBI)	<p>In South Africa the South African National Biodiversity Institute (SANBI) acts as the National Implementing Entity (NIE) to the Adaptation Fund (AF). SANBI is therefore responsible for vetting and endorsing project and programme proposals, and for disbursing funding from the AF when proposals are successful. The NIE is also responsible for the overall management of funded projects and programmes, and thus for reporting, financial and monitoring aspects.</p> <p>The NIE Secretariat is housed within SANBI's Climate Change Adaptation Directorate.</p> <p>The project entitled : <i>A Small Grant Facility: Taking adaptation to the ground: A small grants facility for enabling local level responses to climate change in</i></p>	AF's portfolio has grown to 73 projects with a total value of approximately €4.4 billion and it has supported 76 countries.



		<p><i>South Africa, approved in 2014, tackles local governments' priorities.</i></p> <p><i>Source: https://www.adaptation-fund.org/wp-content/uploads/2017/05/AdaptationStory-SouthAfrica-WEB.pdf</i></p>	
Green Fund	DEA, DBSA	<p>The Government of South Africa through the Department of Environmental Affairs (DEA) has set up a Green Fund to support the transition to a low carbon, resource efficient and climate resilient development path delivering high impact economic, environmental and social benefits.</p> <p>The DEA has appointed the Development Bank of Southern Africa (DBSA) as the implementing agent of the Green Fund.</p> <p>3 funding windows :</p> <ul style="list-style-type: none"> -green cities and towns -low carbon economy -environmental and natural resource management 	<p>By 2017, €70.87 million allocated to projects, 55 projects funded, 19 active investment projects, 16 research and development projects and 8 capacity-building projects.</p> <p>projects leveraged €1.12 million from other investors in addition to the green fund's support.</p> <p><i>Source: http://www.sagreenfund.org.za/wordpress/wp-content/uploads/2017/09/Green-Fund-Impact-Study.pdf</i></p>



		<p>Financial support may take the form of : Grants (recoverable and non-recoverable), Loans (concessional rates and terms) and Equity.</p> <p>Source : http://www.sagreenfund.org.za/wordpress/types-of-funding/</p>	
Carbon mechanisms	carbon tax	<p>The South African government is supposed to introduce a carbon tax on 1 January 2019. While transitioning, 60% of emissions will be tax-exempt up to 2022 to lessen the impact of the measure on industries.</p> <p>Under current planning, the waste and land use sectors will be fully exempt from the tax. While the full carbon tax rate is proposed to be R120/tCO₂e (€7.73/tCO₂e), after exemptions, the effective tax rate will be between R6–48/tCO₂e (€0.39-3/tCO₂e) (World Bank, 2016). The</p>	<p>The full carbon tax rate is proposed to be R120/tCO₂e (€7.73/tCO₂e).</p> <p>Uncertainty on the impacts of the carbon tax on municipalities' climate action.</p>
	carbon trading		
	carbon budget credits		
	carbon offsets		



		<p>implementation of the carbon tax has faced several setbacks and opposition from industry (Trollip & Boule, 2017). Originally, the 1st of January 2015 was set to be the start date, but since then, it has suffered repeated delays (The Carbon Report, 2015)</p>	
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Relevant climate finance frameworks

South Africa's National Strategic Framework for the GCF (March 2017)

The Department of Environmental Affairs has prepared a Strategic Framework (2017) to guide alignment of climate funding to national priorities. The Framework for the GCF seeks to ensure that South Africa's GCF investment portfolio is aligned with national climate change response priorities, addressing both mitigation and adaptation to drive South Africa's transition to a climate-resilient economy and society and facilitate national social and economic development objectives. In particular, it seeks to ensure that GCF investments advance South Africa's climate change response objectives, as articulated in the NCCRP; contribute substantially to the NDP 2030 and contribute to achieving South Africa's international commitments captured in the NDC to the UNFCCC. The Framework sets out a principle that the identification, development and implementation of individual climate change response measures, including programmes and projects, will be determined through comprehensive governance and stakeholder engagement processes that ensure alignment with national, provincial and local priorities, scientific rigour and long term scalability and sustainability.

Priority areas for the scaled-up implementation of South Africa's climate response are:

- Agriculture, food systems and food security
- Energy efficiency and energy demand management



- Carbon capture and storage
- Disaster risk reduction and management
- Health, land, biodiversity and ecosystems
- Low carbon, climate resilient built environment, communities and human settlements
- Low carbon climate resilient spatial development
- Low carbon, climate resilient transport systems
- Renewable energy
- Social protection systems and public works programmes
- Waste management
- Water conservation and water demand management

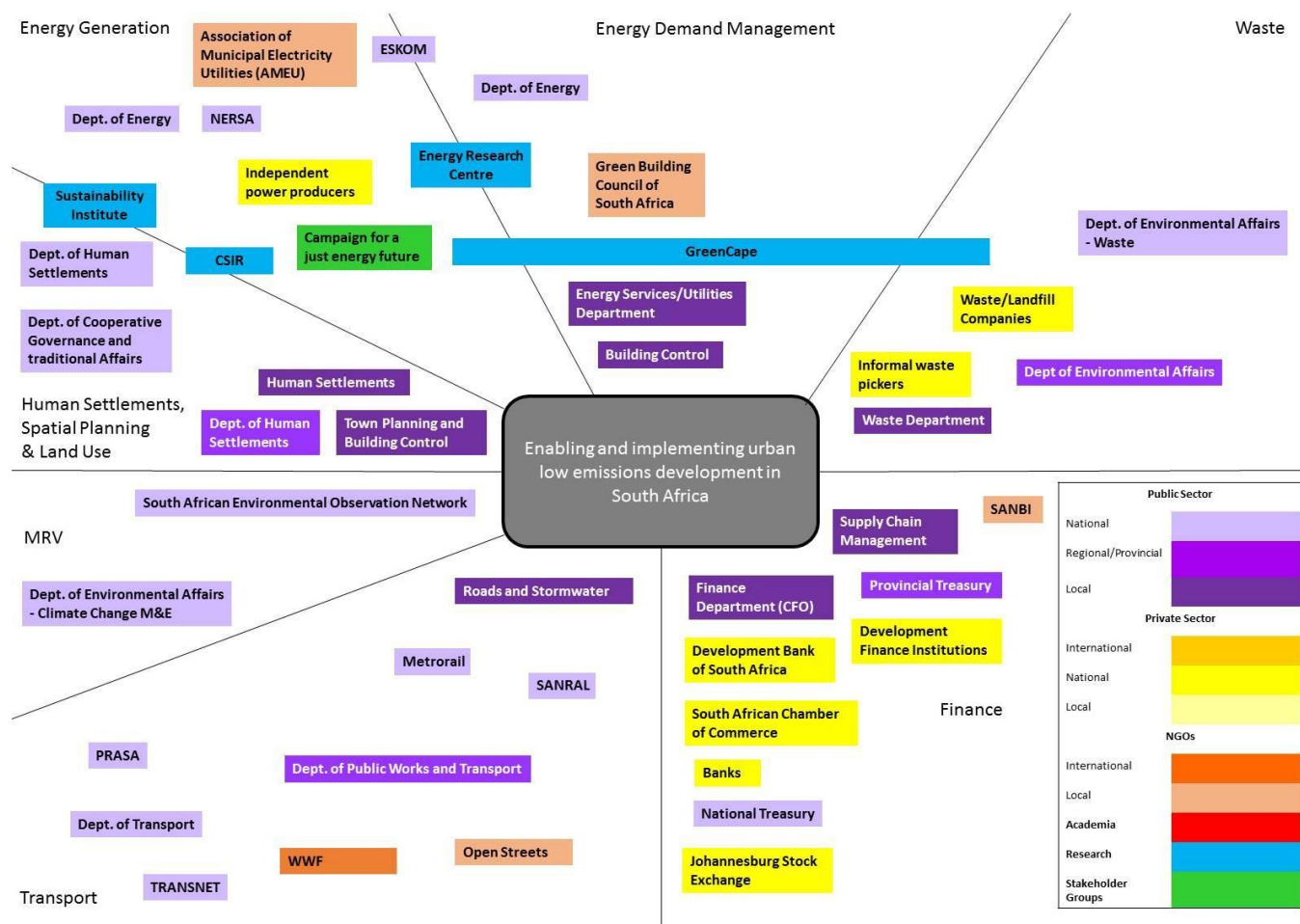
Minimum qualifying criteria for projects and programme to be included in South Africa's GCF country programme are as follows:

- Align with South Africa's GCF country programme priority areas as presented above.
- For adaptation response measures, significantly reduce vulnerability, build resilience and enhance adaptive capacity of communities and sectors most vulnerable to persistent and irreversible impacts in a manner which is responsive to local needs and conditions.
- For mitigation response measures, achieve a significant mitigation impact through reduced or avoided GHG emissions in sectors which have a high risk of GHG emissions (carbon) lock-in.
- Be transformative in design and scale:
 - Represent a significant departure from a business as usual; and
 - At programme level, have a national or provincial footprint; or directly benefit one million or more people; or have significant potential for scaling-up and replication at a national level.
 - Realise significant social, environmental, economic and livelihoods benefits:
 - Enhance job creation, local skills and economic opportunities;
 - Enhance and protect the integrity and resilience of biodiversity and ecosystems; and
 - Enhance social inclusion, equity and the resilience of social systems and governance. Directly contribute to achieving South Africa's NDC and climate change response objectives as described in the NCCRP.

- At a programme level, utilise, demonstrate and/or test policy interventions, fiscal instruments and modes of implementation.
- Have high institutional readiness supported by clear governance structures and leadership to ensure coordinated and effective implementation.
- Be implementable and capable of delivering climate change benefits (GHG emission reductions/reduced vulnerability, enhanced resilience and adaptive capacity) in the short- and medium term.



Annex A - Institutional mapping of South Africa



Annex B – Climate hazards and critical assets mapping

The table contained in Annex B lists

- the most significant climate hazards currently faced by the country,
- how climate change is expected to affect the frequency and intensity of the hazards the Country faces,
- the overall impact of future hazards on the Country,
- the critical assets or services that will be most affected by these impacts,
- the factors that most greatly affect the Country's adaptive capacity, and
- additional benefits or improvements resulting from adaptation planning and / or adaptation actions.

Sector	Sensitivity analysis		Exposure Analysis		Adaptation priorities
	Current stresses to the systems	Change in climatic driver (top priority)	Potential future consequences	Geographical Area	Actions required to cope
Agriculture and Forestry	<ul style="list-style-type: none"> Land use and change Water stress Invasive alien plants 	↓ rainfall Δ rain distribution ↑ heat waves	Reduction in yields Impact crop production Increase pressure on water resources	KZN, Mpumalanga, Western Cape All 9 provinces All 9 provinces	<ul style="list-style-type: none"> Climate Smart Agriculture Conservation Agriculture
	<ul style="list-style-type: none"> Direct wave impacts, coastal flooding and inundation, and erosion and under-scouring Land use change 	Provinces with a coastline: <ul style="list-style-type: none"> Intrusion of saltwater Loss of or changes to coastal wetlands Higher (ground)water levels and limited soil drainage Flooding of low-lying areas and resultant damage erosion of beaches and bluffs 			<ul style="list-style-type: none"> Land use planning Designation of flood areas/ high risk areas and development - free zones Construction of dykes, groynes, bank protection, sea walls Beach nourishment, dune protection
	<ul style="list-style-type: none"> Quadruple burden of disease in SA and people from neighbouring countries Poor housing, infrastructure and service delivery 	<ul style="list-style-type: none"> A changing climate can have a myriad of impacts on the health sector There is a lack of understanding on the linkages between climate and health in South Africa (e.g. quantitative link between high temperatures and mortality) 			<ul style="list-style-type: none"> Cross-sectoral cooperation and collaboration Tailored Adaptation strategies to regions or communities based upon their risks and vulnerability
	<ul style="list-style-type: none"> Habitat fragmentation Land use change Invasive alien plants 	<ul style="list-style-type: none"> Rising temp Temp extremes Dec/increase in rain amount Rising CO₂ Changes in fire 	<ul style="list-style-type: none"> Climate change will lead to changes across the biomes through the threats vary in importance between the biomes increase over with the level of GHG. 		<ul style="list-style-type: none"> Land use planning Land management Ecosystem-based adaptation Mainstreaming of stewardship programmes Monitoring and evaluation
Urban and Rural Settlements	<ul style="list-style-type: none"> Deficit in infrastructure and provision of services 	<ul style="list-style-type: none"> Different human settlement types and locations having varying vulnerabilities and capacities will experience the hazards Informal settlements and their population being the most exposed 			<ul style="list-style-type: none"> DRM Mainstreaming of no-regret interventions Principles of water sensitive urban design (WSUD) and consideration for ecological infrastructure
	<ul style="list-style-type: none"> High water demand: current water usage already exceeds reliable yield High levels of variability in rainfall from year to year, resulting in frequent floods and droughts Deteriorating water quality of major river systems, 	↓ rainfall ↑ intense rainfall	Increase in water demand from agriculture, power generation, settlements increased erosions and sedimentation of dams and rivers		<ul style="list-style-type: none"> National water policies, plans and funds mainstream climate change adaptation monitoring and information needs to be appropriately designed Infrastructure development, operation and

Source : DEA, South African 3rd national communication (2017)

https://www.environment.gov.za/sites/default/files/reports/draftsouthafricas3rdnationalcommunication_unfccc2017.pdf



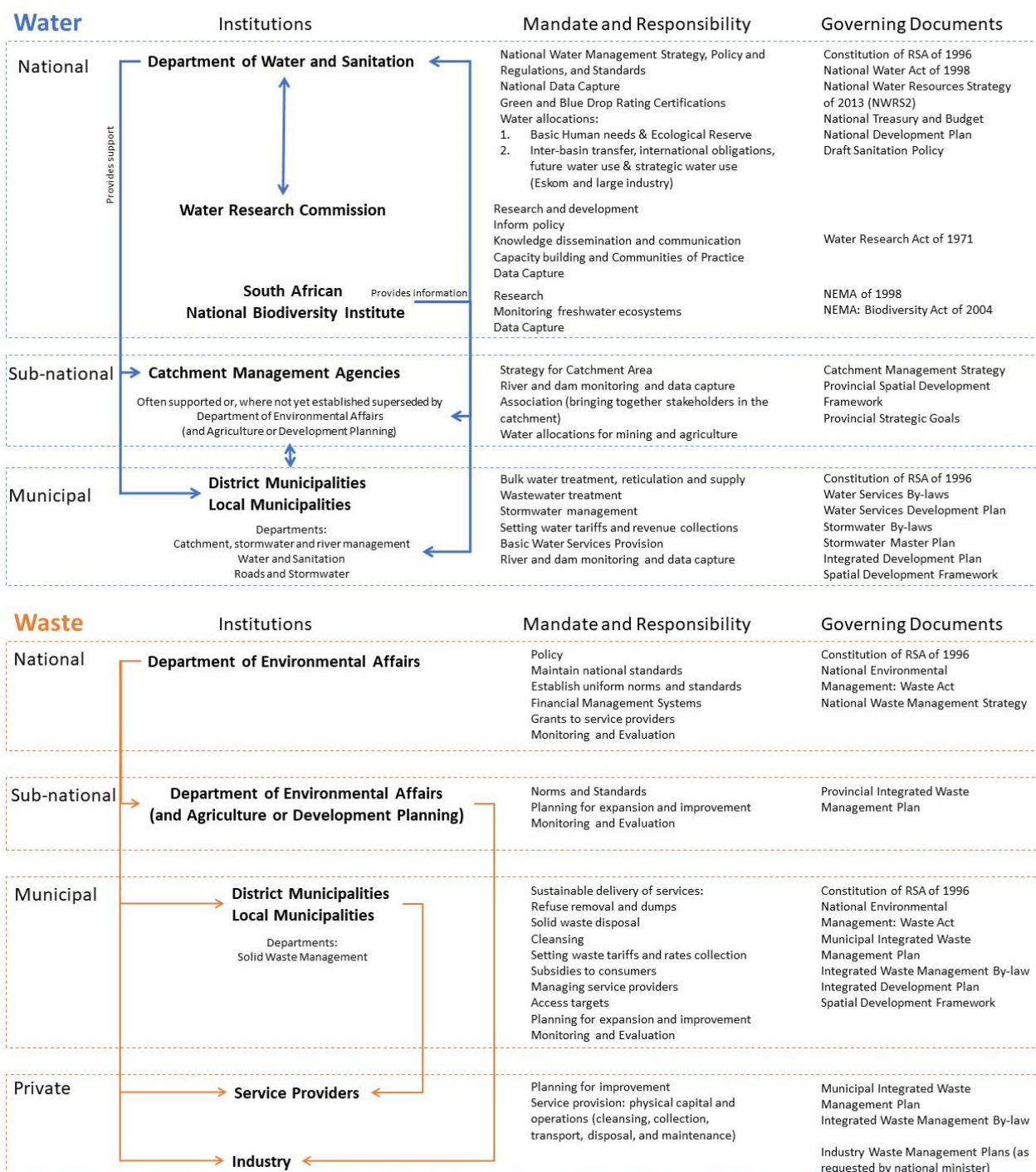
Annex C – National Project Advisory Group (PAG) members

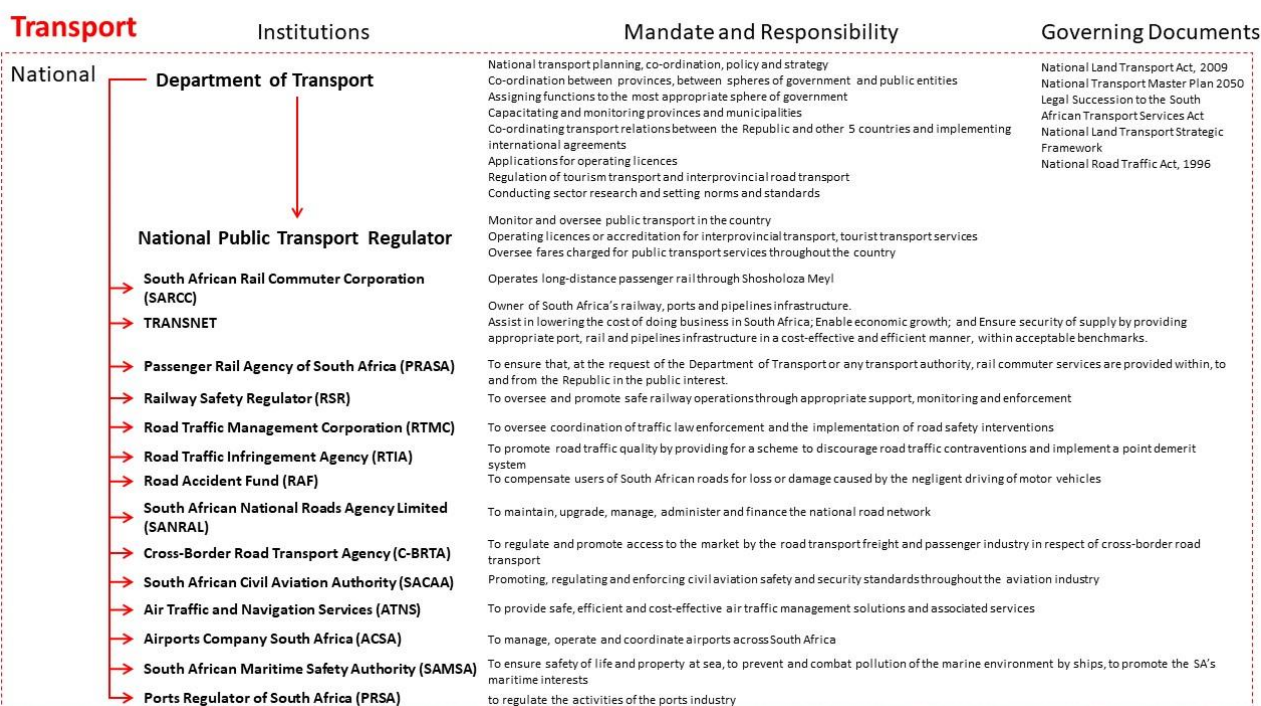
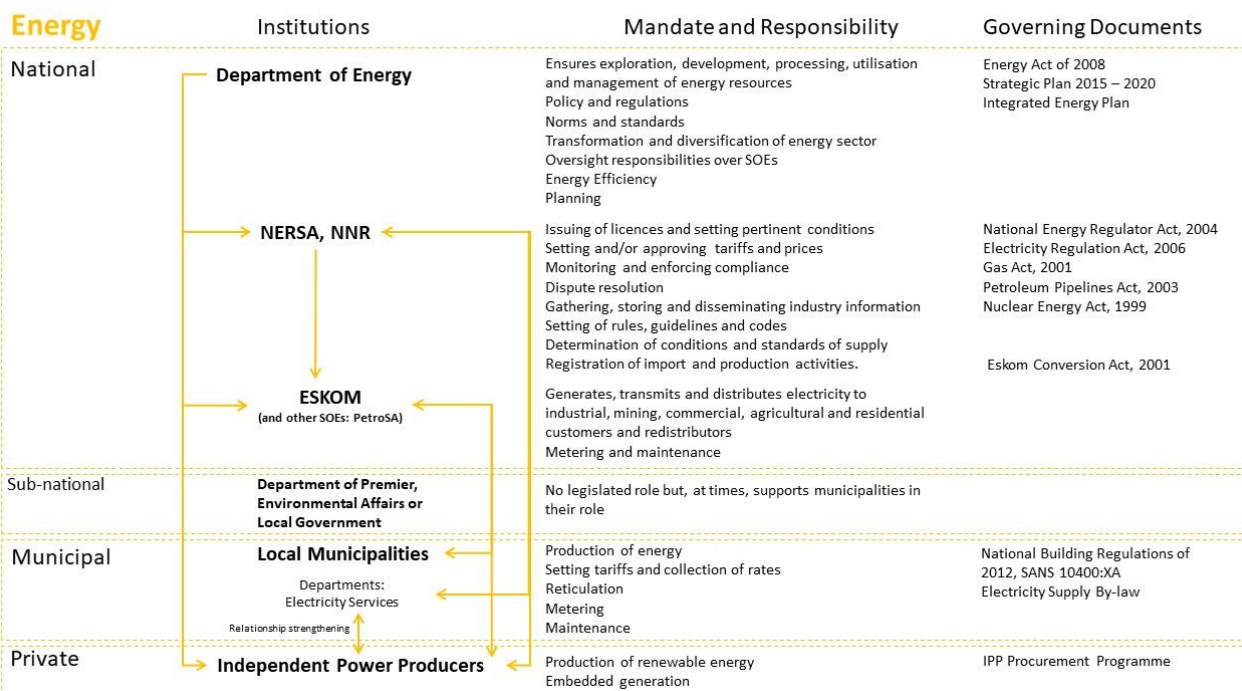
The table contained in Annex C lists the members of the national PAG of the country.

Telly Chauke	South Africa Local Government Association (SALGA)	Environment and Climate Change
Cecilia Kinuthia-Njenga	United Nations Environment	Head of sub-regional and regional offices
Faith Nkohl	Department of Environmental Affairs	Climate Change and Air Quality Directorate
Nomkita Fani	Department of Cooperative Governance and Traditional Affairs	IUDF Implementation Unit
Hilton Trollip	Energy Research Centre at the University of Cape Town	Researcher



Annex D- Institutional Mapping and legislative mandates of key sectors: Water, energy, waste and transport







Transport

	Institutions	Mandate and Responsibility	Governing Documents
Sub-national	Provincial Department of Transport and Public Works	May publish and implement a provincial land transport policy and strategy Assist municipalities Improve the planning, co-ordination and facilitation of the land transport functions of the province and between municipalities Set standards, performance criteria and related indicators to ensure intermodal and intramodal co-ordination Sourcing international, national, local, private and public funding Co-ordinate transport initiatives with municipalities, and other stakeholders Ensuring that municipalities that lack capacity and resources are capacitated to perform	National Land Transport Act, 2009 Provincial Land Transport Framework
	Provincial Regulator Entity	Monitor and oversee public transport in the province Operating licences for intra-provincial transport	
Municipal	Local Municipalities Transport Authority	Developing land transport plans, policy and strategy - incorporates spatial development policies on matters such as densification and infilling as well as development corridors Promulgating municipal by-laws Ensuring co-ordination between departments and agencies in the municipal sphere Financial planning, with due focus on rehabilitation and maintenance of infrastructure Encouraging and promoting the optimal use of the available travel modes Prevent or reduce any adverse impacts of the land transport system on the environment Promoting safety and security in public transport Provision for the needs of special categories of passengers in public transport infrastructure Undertaking functions relating to municipal roads Modally integrated public transport networks and travel corridors Service level planning for passenger rail on a corridor network Integrated ticketing systems Travel demand management measures Freight by road, taking in to account freight by rail and port	National Land Transport Act, 2009 Integrated transport plans Freight transport strategy
	Metrorail	To ensure that rail commuter services are provided in the public interest, and to promote rail as the primary mode of mass commuter transportation. Custodianship of all commuter and passenger rail assets such as land in and around stations, infrastructure and rolling stock. PRASA operates commuter rail services through Metrorail.	
	Intermodal planning committee	To co-ordinate public transport between the modes	
Private	South African National Taxi Council	To ensure that the Taxi industry is mobilized and speaks in one voice and is organized around a common vision: Regulation, Governance and Control of the Industry; Economic empowerment of industry stakeholders; Transformation and development of the Taxi industry.	IPP Procurement Programme

