

South Africa's first city to develop tariffs and rules for distributed renewables and serving as a blueprint for the rest of the country.

In 2013, when South Africa had no national standards in place for solar PV on buildings, Cape Town published guidelinesⁱ promoting the safe and legal installation of distributed renewables in commercial and residential settings. By 2019, the City had the highest concentration of registered rooftop solar PV systems nationwide. In total, between 2011 and 2020, Cape Town approved the installation of nearly 42 MW of rooftop solar PV and installed 0.6 MW on City buildings through its rooftop PV programme. These systems feed into the local electricity distribution network, helping to reduce reliance on coal-fired power from the national grid. Similar processes, guidelines and tariffs have since been adopted in more than 40 other South African municipalities.

Building on earlier roll-outs of solar water heaters in low-income communities, in 2013 Cape Town implemented a programme to promote this technology more widely, helping to reduce energy from one of the highest electricity-consuming end-uses for city households, water heating. By 2015, some 46,000 solar water heaters had been installed city-wide, saving 128,000 MWh per year, creating employment equivalent to 1,300 job-yearsⁱⁱ, contributing more than ZAR 380 million (USD 27 million) to the local economy and reducing more than 132,000 tonnes of carbon emissions per year.

In 2015, the Cape Town Energy 2040 Vision, developed through an extensive process of energy modelling and stakeholder engagement, set ambitious city-wide targets for increasing energy access, improving energy efficiency and reducing carbon emissions. It also set a target to achieve at least 500 MW of renewable and clean energy capacity by 2040. To help achieve this ambition, the City of Cape Town elevated the role of energy institutionally, combining its two energy-related divisions (one focused on energy and climate change and the other on electricity generation and distribution) into a single new Energy and Climate Change Directorate.

This change also signaled Cape Town's intention to expand its role in local electricity supply. In 2017, the City entered into a court challenge with the national government to enable it to purchase electricity from independent power producers (IPPs) and not be confined to procuring coal-fired power from Eskom, the centrally controlled national energy utility. In a landmark step in October 2020, South Africa's Department of Mineral Resources and Energy amended the country's electricity regulations to enable municipalities in good financial standing to develop their own power generation projects, as a way to ensure security of energy supply in a co-ordinated manner aligned to the national IRP and the municipal

The City of Cape Town has taken an **active leadership role** in renewable energy deployment.

Integrated Development Plans (which guide overall planning and development for municipalities in South Africa).

The City of Cape Town has begun laying the foundations for supplying renewable energy at scale. Based on a legislative change in late 2020, the municipal government is exploring the commercial, legal and technical aspects of a municipal-level Renewable Energy Independent Power Procurement Programme (REIPPP) and is developing a guide on how to engage with industries in procuring energy from IPPs. As of 2020, the City was working on a Zero Carbon 2050 action plan (and related policies) as well as developing low-income energy services, a framework for electric vehicles and innovative financing opportunities for engaging households in small-scale rooftop solar PV.

Cape Town is also honouring its international commitments to climate action. It is a signatory to various initiatives including the Mexico City Pact, CDP, the carbonn Climate Registry, the Covenant of Mayors in Sub-Saharan Africa and the C40 Cities Leadership Programme. The City also has committed to achieving carbon neutrality by 2050, recognising that this will require ambitious actions across all sectors. To translate these commitments into action, Cape Town has woven them into its Integrated Development Plan for the period 2017-2022.

The City's transport plan includes exploring the potential production and use of biofuels in transport, using renewables for infrastructural facilities such as depots and transport interchanges, and replacing the municipal diesel bus fleet with electric buses (which eventually would be powered with renewables). In a pilot project in early 2018, the City's "MyCITI" bus rapid transport service added 11 locally manufactured electric buses to its fleet.

Cape Town is working to prepare its power grid for high EV penetration in the near future. The Electric Vehicle Framework includes leveraging EV roll-out and charging to increase the share of renewables in final energy consumption, and is considering requiring public EV charging stations that exceed a specific demand threshold to operate on renewable energy. This energy is expected to be either generated from local solar PV capacity or purchased through a contractual arrangement.



Source: See endnote 24 through 59 in the Feature: *Renewable Energy in Sub-Saharan African Cities* chapter.

i The guidelines, which are non-binding, outline a comprehensive list of City-approved suppliers of inverters, the steps for installing solar systems and the application process for registering and selling electricity to the City.

ii A job-year refers to one of year of work for one person.

COCODY

CÔTE D'IVOIRE

Land area
(km²)

Population size
(2018)

135



800,000

3

The City of Cocody, located north of Abidjan on the coast of Côte d'Ivoire, released its Green City Plan in 2017, pledging to reduce carbon emissions 70% by 2030 to combat climate change. The city established the pledge to complement efforts to achieve the national goal of 42% renewable electricity generation by 2030, as put forward in Côte d'Ivoire's 2016 Nationally Determined Contribution towards reducing emissions under the Paris Agreement. Achieving the city's emissions reduction target will be challenging due to Cocody's rising energy demand, which is caused largely by rapid urban development and economic growth.

Cocody Green City is an ambitious plan that aims to minimise local greenhouse gas emissions while also creating 100,000 direct jobs and 400,000 indirect jobs, promoting women's empowerment and increasing citizen participation in adopting sustainable living. This community-based climate action plan aims to reduce CO₂ emissions by up to 90% by 2030, using renewable energy and carbon sequestration efforts. The city has set up a Reforestation and Carbon Sequestration Program that includes the development of green spaces and the restoration and replanting of 2 million mangrove trees to protect local climate health.

The Green City plan takes a holistic approach towards upgrading energy use and generation, transport, habitat restoration and land use, conservation and protection of water resources, community sensitisation and adoption. As of 2017, 23 measures were under development, including using solar energy to power large public buildings, installing 5,000 solar lamp posts, installing 1,600 solar traffic lights at 400 crossroads and supplying 200,000 solar PV power kits to households. Other measures to reduce carbon

emissions include distributing to households 300,000 efficient cook stoves that run on ethanol procured locally from sugarcane manufacturers, producing 1,000 solar dryers for community women, distributing solar water heaters and setting up four wind farms on the banks of Ebrie lagoon.

The Cocody Green City plan also emphasises the development of sustainable transport and mobility plans through a Transport Demand Management scheme that aims to remove 1,000 old vehicles annually from city roads to improve local air quality and eliminate some 50 million tonnes of CO₂ emissions per year. In addition, a used vehicle repair centre has been created to provide 100,000 catalytic exhaust systems for polluting vehicles.

