Ghana governme t projection for the solar energy 2019

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Rapid economic and population growth in Africa, particularly in the continent"s burgeoning cities, will have profound implications for the energy sector, both regionally and globally. The stage is set for a new wave of dynamism among African policy makers and business communities, with falling costs of key renewable technologies opening up new avenues for innovation and growth. Chief among the challenges is providing universal access to reliable, modern, affordable and sustainable energy.

Africa"s population is among the fastest growing and youngest in the world. One-in-two people added to the world population between today and 2040 are set to be African, and the continent becomes the world"s most populous region by 2023, overtaking China and India.

More than half a billion people are added to Africa"s urban population by 2040, much higher than the growth seen in China"s urban population in the two decades of China"s economic and energy boom. How Africa meets its growing energy needs is crucial for the continent"s economic and energy future, as well as for global trends.

A critical task for policy makers is to address the persistent lack of access to electricity and clean cooking, and the unreliability of electricity supply, which have acted as brakes on the continent"s development. Today some 600 million people do not have access to electricity and around 900 million people lack access to clean cooking. Nonetheless, the momentum behind today"s policy and investment plans is not yet enough to meet the energy needs of Africa"s population in full.

Despite progress in several countries (e.g. Kenya, Ethiopia, Ghana, Senegal, Rwanda), current and planned efforts to provide access to modern energy services barely outpace population growth. In 2030, 530 million people still lack access to electricity and nearly one billion people lack access to clean cooking. As a result, the global population without access to energy becomes increasingly concentrated with 90% without access to electricity and almost 50% without access to clean cooking in 2040 living on the African continent.

The Africa Case outlines a way to lift these constraints. It is also built on the premise of "Agenda 2063", the continent"s own vision of accelerated economic and industrial development, which was established by the Heads of State and Governments of the African Union in 2015 and is incorporated in the national planning framework of over 30 countries. In this case, faster economic expansion is accompanied by the full achievement of access to electricity and clean cooking, in line with Sustainable Development Goal 7.

In the Africa Case, although the size of the economy in 2040 is four-times larger than today, total primary energy demand is only 50% higher - energy use in this case is actually lower than in the Stated Policies Scenario even though economic growth is significantly stronger.

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The reasons are linked not only to the accelerated move away from solid biomass but also strengthened policies for energy efficiency: these include fuel economy standards for cars and two/three-wheelers, more efficient industrial processes, building codes and efficiency standards for appliances and cooling systems.

Electricity demand in Africa today is 700 terawatt-hours (TWh), with the North African economies and South Africa accounting for over 70% of the total. Yet it is the other sub-Saharan Africa countries that see the fastest growth to 2040. Electricity demand more than doubles in the Stated Policies Scenario to over 1 600 TWh in 2040, and reaches 2 300 TWh in the Africa Case, with most of the additional demand stemming from productive uses and emerging middle- and higher-income households.

Renewables play a leading role in meeting this demand. To date, the continent with the richest solar resources in the world has installed only 5 gigawatts (GW) of solar PV, less than 1% of the global total. However, Africa"s vast renewables resources and falling technology costs drive double-digit growth in deployment of utility-scale and distributed solar photovoltaics (PV), and other renewables, across the continent.

In the Africa Case, solar PV deployment averages almost 15 GW a year, reaching 320 GW in 2040, overtaking hydropower and natural gas to become the largest electricity source in Africa in terms of installed capacity. Wind also expands rapidly in several countries that benefit from high quality wind resources, most notably Ethiopia, Kenya, Senegal and South Africa while Kenya is also at the forefront of geothermal deployment.

The Africa Case requires building a more reliable power system and greater focus on transmission and distribution assets. A key priority is targeted investment and maintenance to reduce power outages, a major obstacle to enterprise, and to decrease losses from 16% today to a level approaching advanced economies (less than 10%). There is also a need to build up the regulation and capacity to support Africa"s power pools and strengthen regional electricity markets.