THE INTERNATIONAL REC STANDARD

Country Assessment Report

Country/Region Name:

South Sudan

Generation and demand: (type, MW, TWh)

South Sudan is one of the least electrified countries in the world. Official up-to-date statistics for South Sudan's energy generation and demand are not available, and there is a general lack of reliable data. Reports from the World Bank, the International Energy Agency, and others attempt to capture the country's energy footprint, though there are discrepancies between the various reporting.

According to the latest World Bank energy data, South Sudan has the second lowest electric power consumption at 44kWh per capita per year, and with 28.2% of the population with access to electricity. By contrast, the latest International Energy Association data (from 2017) reported that only 1% of South Sudan's population had access to electricity. The CIA world factbook reports 22% of the population in urban areas has access to electricity, while only 5.9% of the population in rural areas has access to electricity.

South Sudan has extremely limited grid infrastructure, and existing energy generation is almost entirely powered by fossil fuels, either diesel or heavy fuel oil. The capital of Juba and some of the larger cities have some local grid infrastructure, with limited distribution lines. These are in varying levels of operation and none are fully functional. Only one small area in the northern part of Upper Nile State has a functioning grid with consistent electrification, as it is connected to and powered by the Paloich oil fields. Despite being an oil producing country, South Sudan has no domestic refinery capacity and exports all of its oil. Most of the energy generation in the country is on-site, off-grid generation via diesel generators.

South Sudan is the world's newest country having gained independence from Sudan in 2011 following decades of civil war. The Comprehensive Peace Agreement (CPA) ran from 2005 – 2011 and set the stage for independence. This period saw some limited electricity planning and development in South Sudan, including the initial construction of a number of city grids. Planning also began for at least four different large scale hydropower projects that were envisioned along the White Nile in the Eastern Equatoria region. The government's voluntary shutdown of its oil production in 2012-13 led to a broad economic collapse and the gradual unravelling of the government. The existing city grids fell into disrepair, without sufficient government funds to maintain or repair the infrastructure.

A new civil war erupted in late 2013 and spread across the country. In 2014, the Minister of Electrification estimated that the country had only 22MW of installed generation capacity. The civil war led to an economic crisis and much of the country's limited electricity infrastructure was damaged or destroyed in the fighting. Multiple peace agreements have been signed since 2015, and in March 2020 a new government was finally formed incorporating the main opposition alliance. The situation is much improved from previous years despite continued violence in parts of the country. In addition, several opposition groups still remain outside of the peace process and the peace agreement remains fragile.

While limited reconstruction has taken place, the lack of energy access remains a major obstacle to development across the country. In late 2019, the government signed an agreement for a private sector grid rehabilitation and diesel-powered 33MW power plant to be built in the capital city of Juba, and a separate agreement for 20MW solar project to be built just outside Juba.

Electrical Interconnection and import/export:

South Sudan has very limited national or regional electrical interconnection. As stated above, most generation in the country is off-grid generation powered by diesel generators. The northern border city of Renk is connected to and powered by the Sudanese grid. There are plans to connect the southern border cities of Nimule, Kaya and Kajo Keji to the Ugandan grid. However, there are no large scale interconnections at this time, nor a national grid through which to connect beyond localized power for border communities. South Sudan has expressed interest in joining the East Africa Power Pool, but has not yet done so.

Market Structure:

South Sudan's energy sector has a nascent regulatory framework, with the National Electricity Bill (2015) providing the broad legal framework. The legislation set out the terms for establishment of the National Electricity Regulatory Authority, which is tasked with the developing and managing the regulatory framework for the country. This includes setting and reviewing tariffs and charges for the supply of electricity; granting of licences, monitoring and enforcing the performance of regulated entitles and the functioning of the electricity sector. As of June 2020, the Regulatory Authority has yet appear to be operationalized.

The Bill further lays out the role and authority of the Ministry of Electricity and Dams (MoE), and the process and steps through which independent power producers can apply for generation, transmission and distribution licenses through MoE. There is limited mention of renewable energy in the bill, beyond the MoE and Regulatory Authority being tasked to "encourage and promote energy efficiency and the use of renewable energy."

The South Sudan Electricity Corporation (SSEC) operates as a vertically integrated state utility, under the MoE. According to the legislation, the SSEC serves as the issuing authority for licenses, with approval from the Minister of the MoE, until the Regulatory Authority is established. This appears to be the current operating reality. The former Minister of Electricity and Dams, Dr. Dhieu Mathok Diing, informed independent power producer, Kube Energy, that projects under 2MW are not required to seek a license.

The largest renewable energy project operating in the country as of May 2020 is a 1MW off-grid solar facility built and installed by the United Nations in Juba. We are aware of two larger (10-20MW) solar projects that have been discussed for in and around Juba. However, the majority of the potential projects we have seen, and most of the companies operating in South Sudan with whom we have spoken, are planned at below 2MW.

There have been several significant changes in the broader governance structure in recent years, which has affected the management of the electricity sector. First has been the import and availability of diesel fuel. There have been shifting responsibilities within the government over control of fuel imports, which are heavily subsidized by the government and have been the source of significant alleged corruption in recent years. A second is the change in Ministerial leadership in March 2020, when a new Minister of MoE, Peter Mercallo Nasir, was appointed as part of the new government formed as per the peace agreement. A third variable to note has been a recent reduction in the number of states, from 32 to 10, as state-level Ministries of Electricity and Dams are the de facto authorities outside of Juba for much of the country.

Responsible Government Department: (include key contacts)

Due to the civil war and economic conditions, the relevant government bodies have struggled to meaningfully grow, support and regulate the electricity sector. In July 2019, the Minister of Electricity and Dams at the time, Dr. Dhieu Mathok Diing, spoke about the lack of qualified staff at the Ministry as most of the engineers had been lured away by higher paying jobs in the oil sector.[1] The Ministry is not well staffed, and is effectively absent across much of the country.

The SSEC official in charge of the development of the renewable energy development program is [redacted] General of Planning & Projects.

Existing/Planned Energy Legislation: (is there a CPO)

The South Sudan Electricity Corporation, with the support from the African Develop Bank (AfDB) issued a call for consultants in September 2019 to help shape and define the new country's renewable energy development program. The process is being supported by the African Development Bank. There are no further details at this time.

Environmental Legislation for RE:

We are unaware of any environmental legislation for renewable energy.

Existing/Planned Certificate Systems: (purpose, extent)

There is no existing or centrally planned certificate system in the country.

Energy Peace Partners is proposing to issue Peace Renewable Energy Credits (P-RECs), which are designed to stimulate renewable energy market development in fragile and energy poor regions. P-RECs would monetize renewable energy generated in South Sudan, where renewable energy investment is limited, in order to help renewable energy developers implement new projects or extend exiting projects. This would support market development and expand renewable energy purchase options in a country and region with limited infrastructure, while extending the benefits of the renewable energy revolution to some of the most vulnerable communities.

Extent of Engagement with Government: (brief summary of any contact already made with the national government regarding certification in general and I-REC)

We have had limited engagement with the Government to date on the issue of Environmental Attribute Certificates due to limited government capacity and the nascency of the renewable energy sector in South Sudan. The Ministry has guided that it need not be consulted on off-grid projects below 2MW, which we anticipate will include all potential P-REC projects for the foreseeable future. In September 2018, Energy Peace Partners co-organized the first ever solar training in South Sudan, in the capital of Juba. The Minister of Energy attended the event, and spoke openly about the importance of off-grid renewable energy as the only realistic solution for providing electricity to much of the country.

[1] "Electricity Ministry Lacks Qualified Staff: Minister", 29 July 2019. Radio Tamazuj. Available at: https://radiotamazuj.org/en/news/article/electricity-ministry-lacks-qualified-staff-minister

Expected response from Government: Limited.
Current Environmental Reporting in Energy: Not to our knowledge
Any other Relevant Information:

Report Prepared by	Energy Peace Partners
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Preparation Date	June 16, 2020

Code Manager Observation