

An aerial photograph showing a large-scale solar panel installation in a rural setting. The solar panels are arranged in neat, parallel rows on a cleared, brownish ground. In the background, a dense residential neighborhood with numerous small houses and colorful roofs is visible. The sky is blue with some light clouds. A semi-transparent grey banner is overlaid on the bottom half of the image, containing the title text.

AFRICA AND THE GLOBAL ENERGY TRANSITION

Photo credit: Nuru



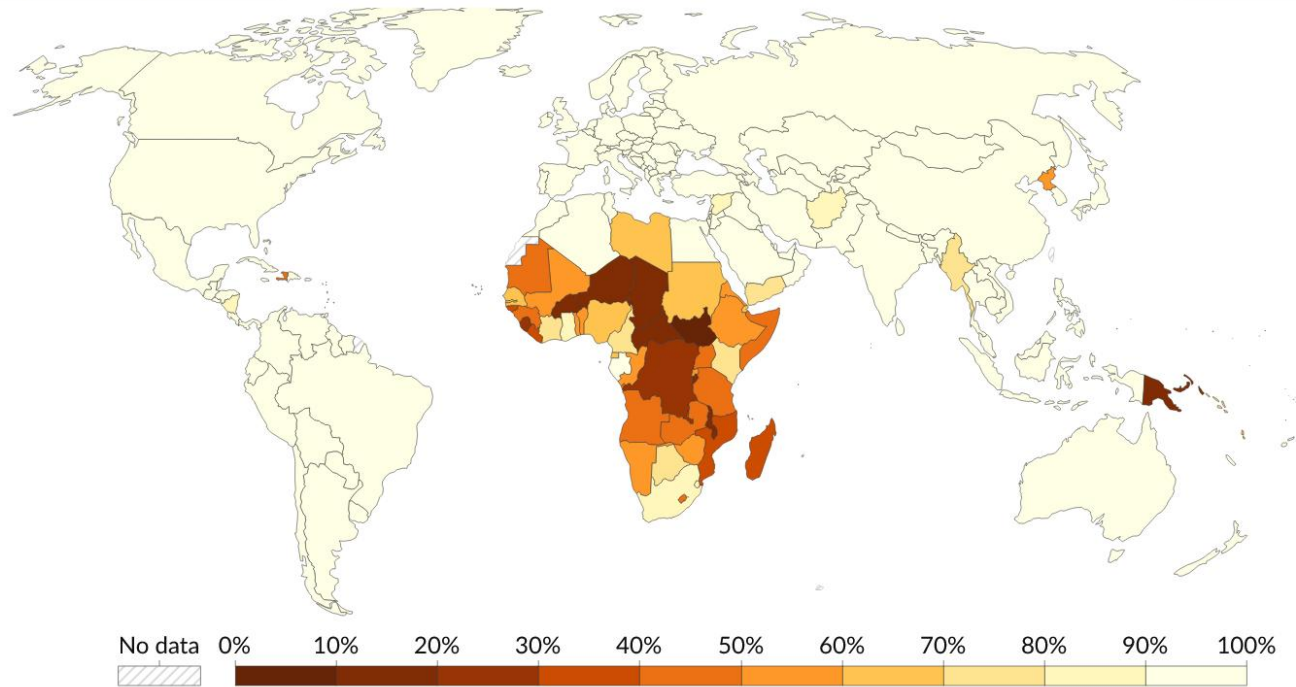
Share of the population with access to electricity, 2022

Our World
in Data

Having access to electricity is defined in international statistics as having an electricity source that can provide very basic lighting, and charge a phone or power a radio for 4 hours per day.

Table Map Chart

World



1990

2022

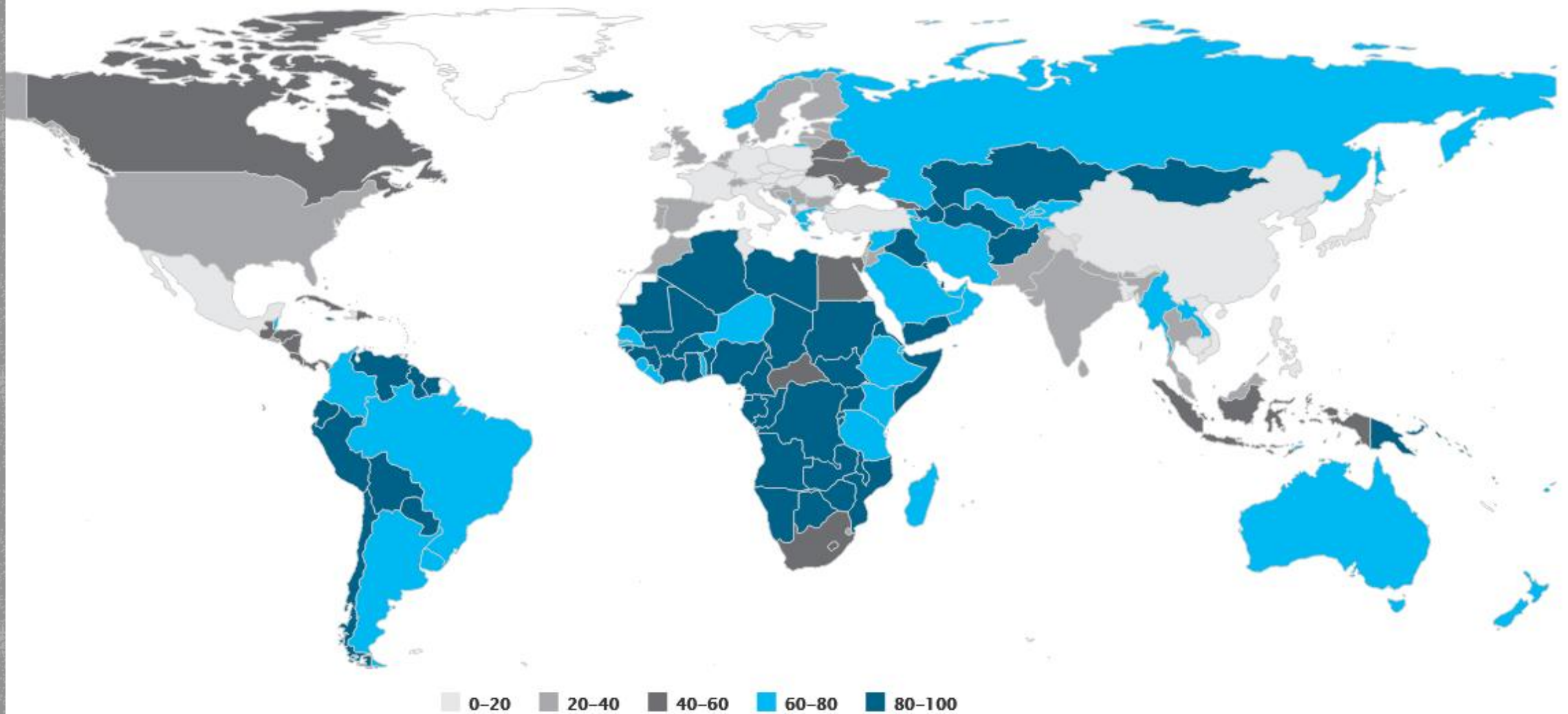
Data source: Data compiled from multiple sources by World Bank - [Learn more about this data](#)

OurWorldinData.org/energy | CC BY



World commodity export dependence, 2018-2019

All commodities



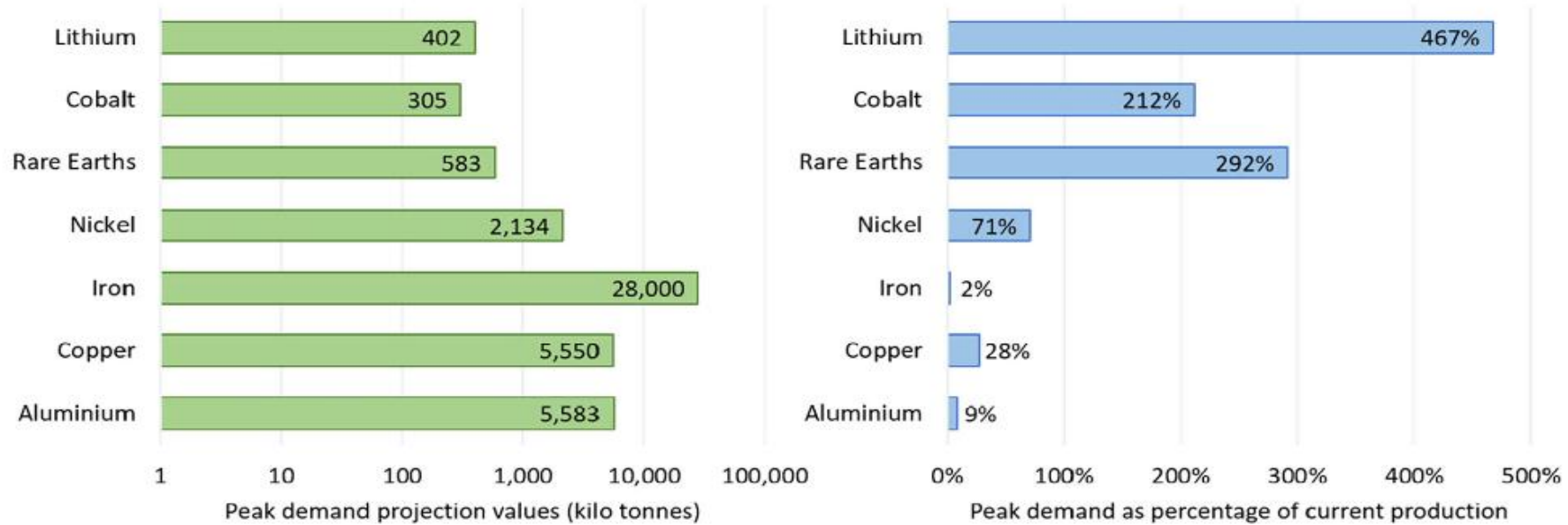
Agenda 2063

The Africa we Want



“Harnessing all African energy resources to ensure modern, efficient, reliable, cost-effective, renewable and environmentally friendly energy to all African households, businesses, industries and institutions”

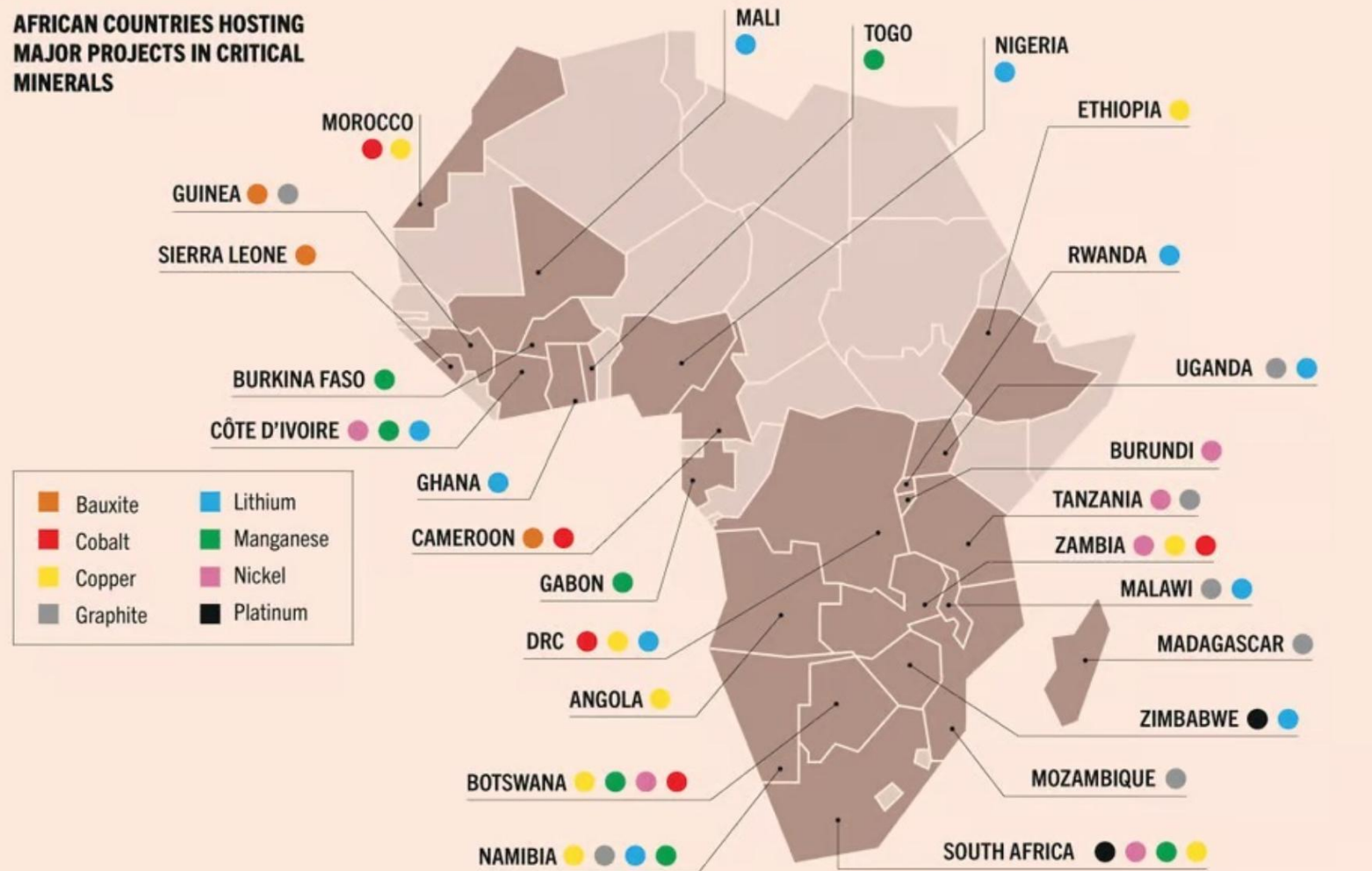
African economies “are structurally transformed to create shared growth, decent jobs and economic opportunities for all”.



- “...the clean energy transition will be significantly mineral intensive” for around 20 metal commodities, or ‘energy transition metals’ (Bainton et al. 2021)



AFRICAN COUNTRIES HOSTING MAJOR PROJECTS IN CRITICAL MINERALS



RETURN OF RESOURCE NATIONALISM

- 1960s and 1970s in Africa a period of increasing state control over the mining sector;
- 1980s to 2010s characterized by privatization and liberalization, with ownership shifting to multinationals;
- 2020s so far defined by a shift back towards greater state intervention aimed at increasing the benefits accruing domestically from the extraction of critical raw materials.

Volume 49 Number 3 June 2023

Journal of Southern African Studies

Edited by

Alexander Caramento

Richard G. Saunders

Miles Larmer

Special Issue

**The Return of Resource Nationalism to
Southern Africa**

DR CONGO

- **2021:** Government unveiled plans to move up the US\$8.8 trillion EV battery value chain, from mineral exploitation to transformation to **domestic manufacture and export of batteries**;
- **2022:** Export of copper and cobalt concentrate banned to stimulate refining into oxides and sulphates;
- **2024:** Around \$1 billion invested in refineries, developing mid-stream processing capacity and increasing domestic value-addition.



Democratic Republic of Congo (DRC). The partner
reliable and clean electricity to 10 million citizens
population – in the DRC by 2024.

British Firm, BBoxx

than 64.5 million euros, the equivalent of about 60.6 billion
provide electricity to half of all Rwandan households.

Dutch Firm, Nots

RENEWABLE ENERGY EXPANSION

- African Union & African governments committed to United Nations SDG 7 to 'Ensure access to affordable, reliable, sustainable and modern energy for all' by 2030;
- Renewable energy expansion at the heart of this effort, especially off-grid;
- Global off-grid solar capacity expanded 10-fold in the last decade, with sub-Saharan Africa the recipient of around four-fifths of the \$1.7 billion invested in private sector off-grid solar projects.



Number of people without access to electricity

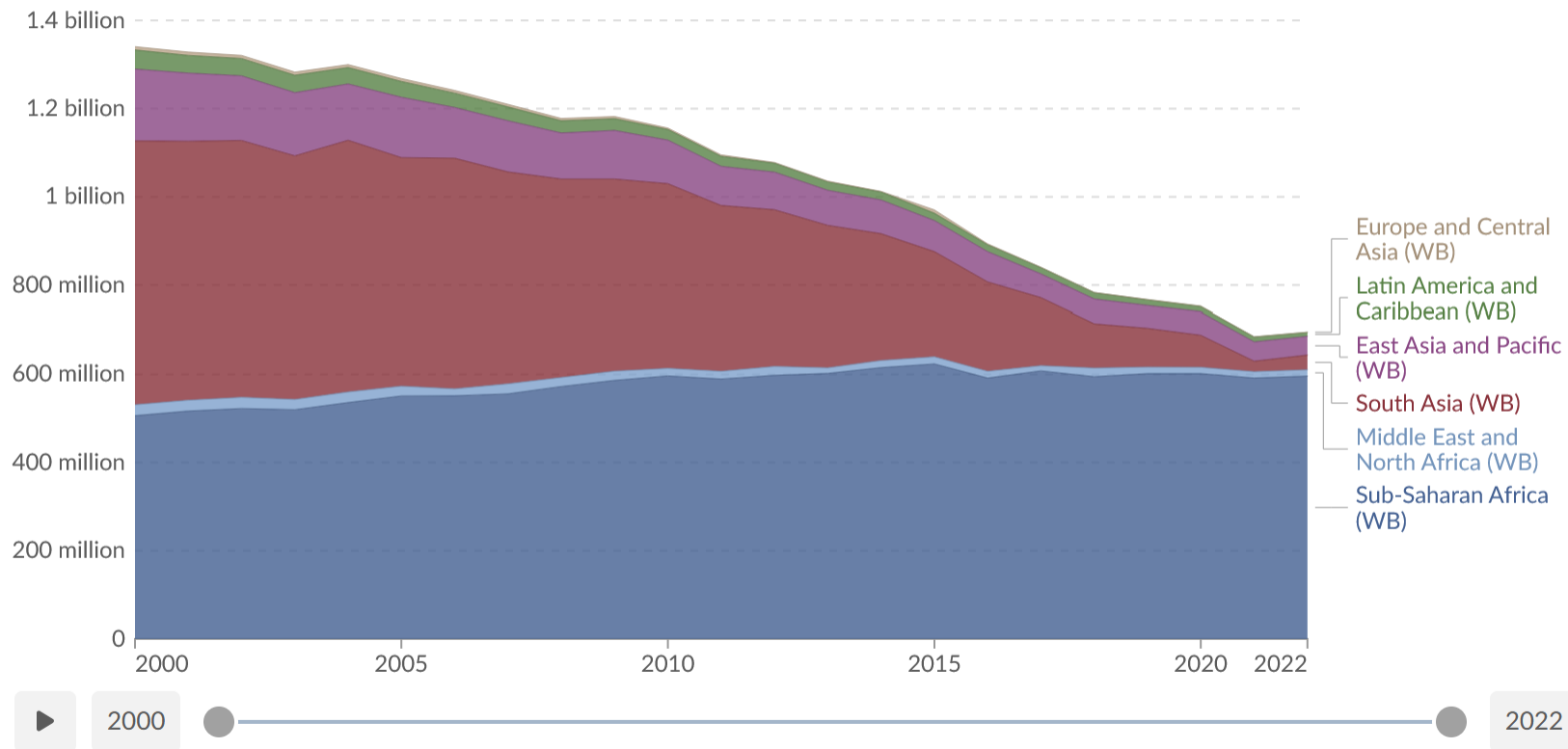
Having access to electricity is defined in international statistics as having an electricity source that can provide very basic lighting, and charge a phone or power a radio for 4 hours per day.

Our World
in Data

Table Chart

Edit countries and regions

Settings



Data source: Data compiled from multiple sources by World Bank – [Learn more about this data](#)

OurWorldinData.org/energy | CC BY



Access to electricity (% of population) - Rwanda, Papua New Guinea

IEA, IRENA, UNSD, World Bank, WHO. 2023. Tracking SDG 7: The Energy Progress Report. World Bank, Washington DC. © World Bank. License: Creative Commons Attribution—NonCommercial 3.0 IGO (CC BY-NC 3.0 IGO).

License : CC BY-4.0 ⓘ



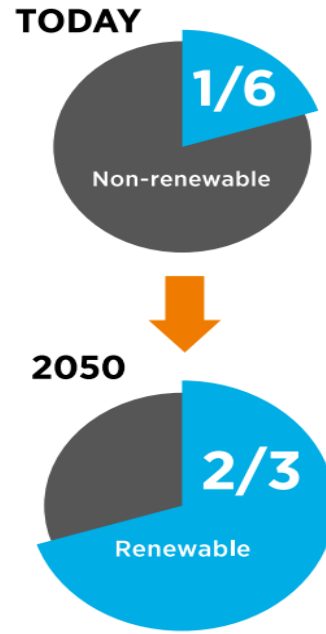
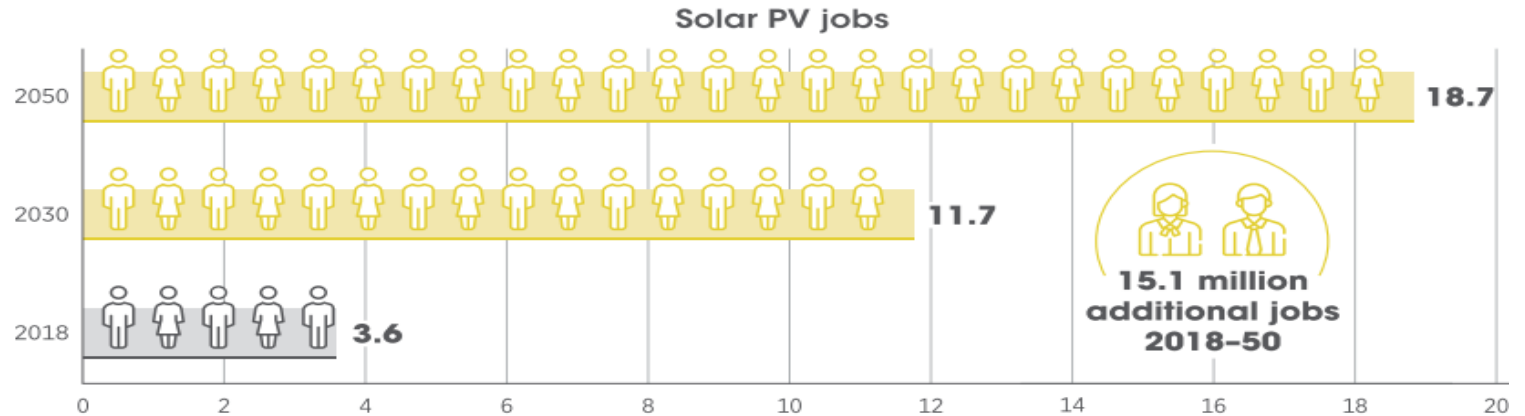


Figure 23: The solar PV industry employed 3.6 million people worldwide in 2018 and this number is expected to rise further to 18.7 million people by 2050 in the REmap case



Sources: IRENA (2019a, 2019j).

**RENEWABLE ENERGY INDUSTRIAL
STRATEGIES CURRENTLY BEING PURSUED
ACROSS AFRICA**

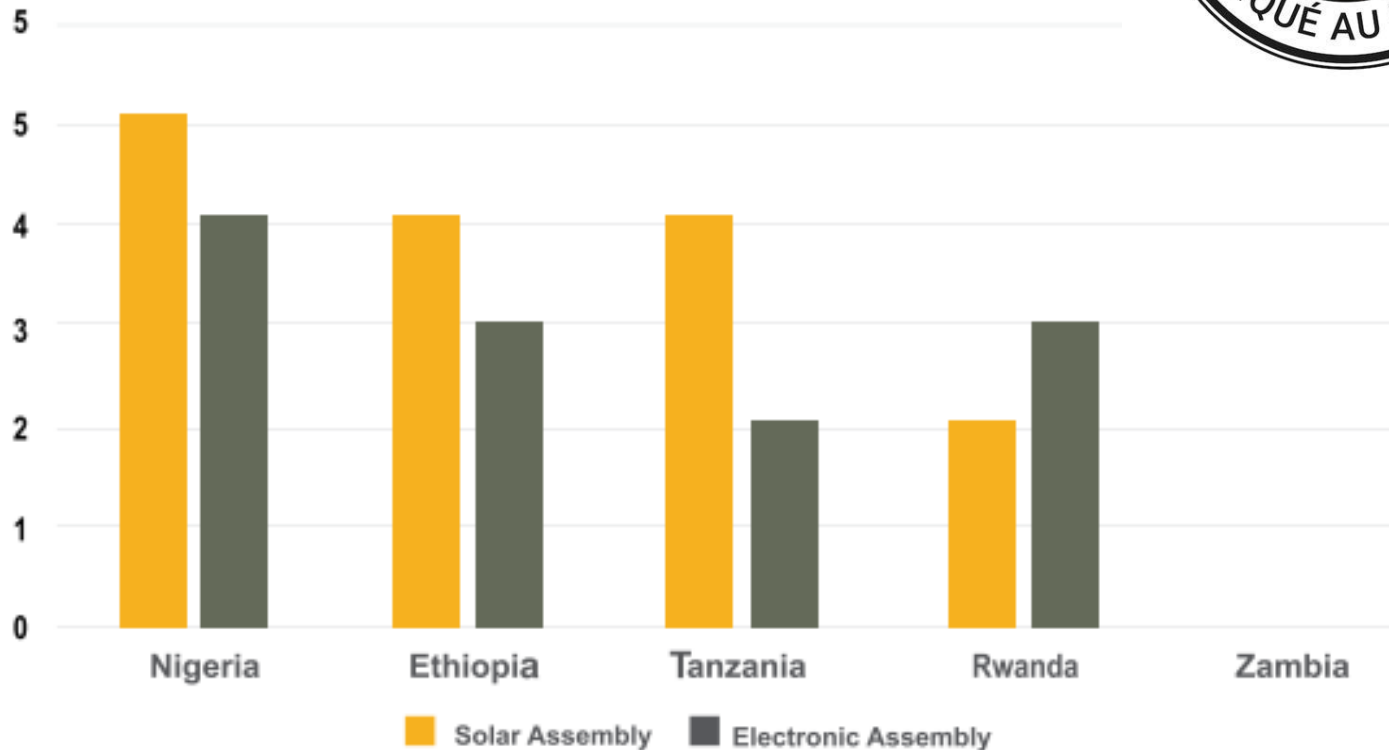
Encouraged by future
projected growth





SOLAR IN RWANDA

Figure 4: Number of companies involved in local assembly of solar and electronic components.



Source: Tetra Tech (2021) Assessment of Local Manufacturing of Off-Grid Solar in Sub-Saharan Africa

- National Strategy for Low Carbon Development (2011), Made in Rwanda Policy (2017) & Special Economic Zone Policy (2018) provide framework to promote domestic solar production;
- Rwanda Development Board, “a one-stop shop” for all services a foreign investor would need;
- Dutch and Indian investment, assembly plants now operational, targeting 100,000 and 25,000 annual unit production respectively;
- Targeting becoming a regional export hub.



TWO MAJOR CHALLENGES

1. How to harness investment and funding to increase renewable energy access (especially the 'last mile' challenge);
2. How to break with historical continuity as an exporter of raw materials and an importer of foreign manufactured goods.

