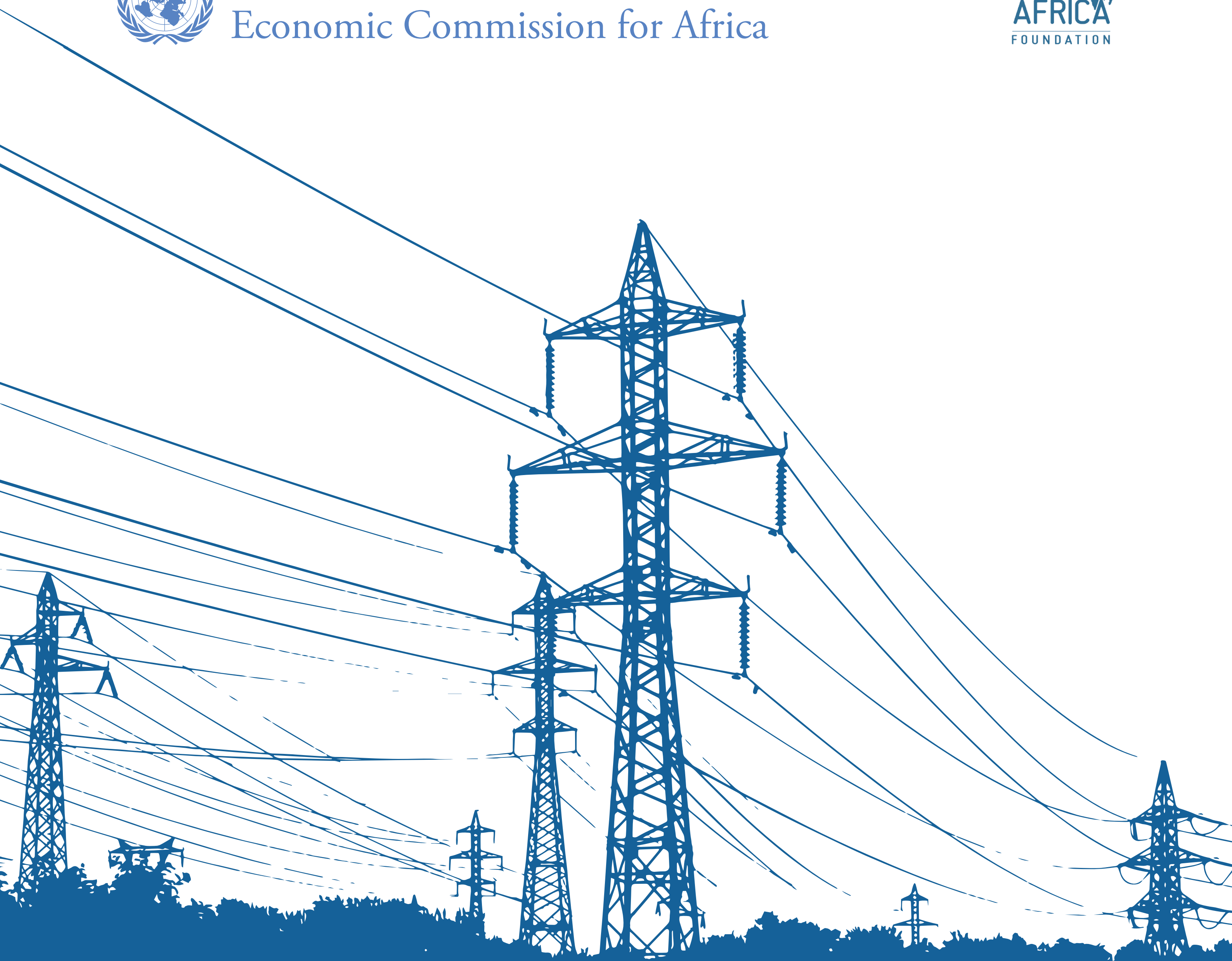
United Nations
Economic Commission for Africa

RES4AFRICA FOUNDATION



Regulatory Review of the Electricity Market in Zambia:

Towards Crowding-in Private Sector Investment

United Nations
Economic Commission for Africa

RES4AFRICA FOUNDATION

Regulatory Review of the Electricity Market in Zambia:

Towards Crowding-in Private Sector Investment

Cover Illustration by Maxim Larin

Acknowledgements

The regulatory review of the electricity market of Zambia is a result of a continental initiative to crowd-in private sector participation in Africa's electricity market in collaboration with Member States, in this case the Republic of Zambia. This review process enjoyed cooperation from the Ministry of Energy, which was very valuable. The initiative is a result of partnership between the UN Economic Commission for Africa (ECA), through its SDG 7 finance initiative spearheaded by Dr. Vera Songwe, United Nations Under-Secretary-General and Executive Secretary of ECA, and the RES4Africa Foundation, through its Missing Link initiative spearheaded by Mr. Roberto Vigotti, Secretary General of RES4Africa Foundation. The Zambia regulatory review, under the guidance of Mr. Robert Lisinge, Chief of Section for Energy, Infrastructure, and Services Section (EISS) of ECA, was led by Mr. Yohannes G. Hailu, energy policy expert at EISS of ECA, and by Mr. Andrea Renzulli, senior policy officer at RES4Africa, with technical and analytical contributions from Mr. Antonio Passero, Mr. Leonhard Braun, Ms. Iarina Ciceu, and the participation of Ms. Cristiana Lisi from RES4Africa.

The national policy and regulatory data necessary for objective regulatory review , as well as the draft country economic, energy sector, and regulatory context, was ably developed by the national consultant, Prof. Thomson Sinkala. The regulatory analysis was based on a large national regulatory and policy database, which was validated by energy experts from the Ministry of Energy, Energy Regulatory Board, Rural Electrification Authority, ZESCO, Zambia Development Agency, and other institutions represented by the following sector leaders and experts: Mr. Allan Chivunda; Mr. Arnold Milner Simwaba; Mr. Besa Chimbaka; Mr. Chitalu Chisanga; Ms. Ines Duclairoir; Mr. Innocent Melu; Mr. John Karabassis; Mr. John Nyongesa; Ms. Juliana Chanda; Mr. Kachinga Phiri; Mr. Misheck Mubita Mubuyaeta; Ms. Tazizwa Mvula; Mr. Akabondo Kabechani; Ms. Misozi Samboko; Mr. Mukuka Mubanga; and Mr. Mwelwa Keneth Chibesakunda.

The initiative received support, including publication logistics, from ECA Sub-Regional Office for Eastern Africa. The technical and graphic design work by Epsilon Publishers Ltd, which has improved the quality of this publication, is acknowledged.

Table of Contents

List of figures

List of tables

Executive Summary

This report provides an analysis of the Zambian electricity sector policies, laws, and regulations in relation to crowding-in private sector participation in developing national electricity infrastructure. The report is part of the United Nations Economic Commission for Africa and RES4Africa Foundation joint program on *Regulatory Review of the Electricity Sector in Africa: Towards Crowding-in Private Sector Investment*.

Since 1991, which marked the beginning of a liberalization phase for Zambia's economy, and the adoption of a new National Energy Policy in 1994, private sector participation in the development of electricity infrastructure was encouraged, and the power sector was moving towards restructuring and liberalization. After the second wave of reforms in 2010, the way was paved for independent power producers to enter the market. Reforms such as the Renewable Energy Feed-in-Tariff Strategy in 2017 kick-started the development of the national renewable energy sector. Coupled with the adoption of the Rural Electrification Master Plan in 2008, Zambia was able to expand access to electricity from about 20 percent before 2010 to above 40 percent in 2019.

The review of the National Energy Policy in 2019 marked the beginning of the third wave of sector reforms. The new policy acknowledged the need to reform sector governance and the regulatory framework behind it. The diversification of the energy mix through the development of non-hydro renewables, the expansion of electrification efforts, including off-grid technologies, and the need to ensure the financial sustainability of the sector with tariff revisions were drivers behind electricity sector reforms.

Zambia has been able to successfully attract private participation in every segment of the electricity market. Nevertheless, the market retains its single-buyer model, dominated by the vertically integrated state-owned utility ZESCO. It owns about 75 percent of generation capacity, as well as the majority of transmission and distribution assets. The generation assets owned by ZESCO are almost exclusively hydropower plants, as a result, droughts have had significant impacts on the reliability of electricity supply. In recent years Zambia has suffered from weather induced electricity deficit, notably between 2015/2016 and 2019/2020, being obliged to introduce severe load shedding measures. The remaining 25 percent of generation assets are owned by Independent Power Producers and spread across hydro, thermal, and renewable resources. A peculiarity of Zambia's electricity market model compared to other African markets is the involvement of two private players in transmission