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Bruno G. Pollet · Iain Staffell
Kerry-Ann Adamson

The Energy Landscape in the Republic of South Africa

Bruno G. Pollet
Eau2Energy
Nottingham
UK

Kerry-Ann Adamson
4th Energy Wave Ltd.
Edinburgh
UK

Iain Staffell
Imperial College Business School
London
UK

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Preface

Energy is an important driver for economic growth, and the Republic of South Africa (RSA) finds itself gripped by a prolonged energy crisis. Chronic underinvestment in the electricity sector has led to escalating power prices and a shortage of capacity during peak demand periods, leading to demand rationing and blackouts.

This brief provides an overview of the energy landscape in RSA, providing background and context to the current situation, and presenting analysis of the policies being put forward by the government for the near future. Four broad areas are covered: reserves and production of fossil fuels, the electricity sector, the rapidly growing exploitation of renewable energy and the recent push towards developing an industry around hydrogen and fuel cells.

The following section of this brief presents a methodical discussion of the energy landscape in RSA, covering the general situation, the supply and demand for energy, and the structure of the energy sector (Chaps. 1 and 2). Chapter 3 presents data and analysis of the country's fossil fuels, electricity generation and potential future sources of production and industry. Chapter 4 discusses recent developments, including the impact on green jobs and green funds, and Chap. 5 reflects on the policies that have been proposed and their potential implications. Chapter 6 puts forward some concluding remarks and recommendations.

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Abstract

The Republic of South Africa (RSA), often seen as the “Powerhouse of Africa” is facing major energy challenges. (Un)planned outages, energy shortages, black-outs, high energy tariffs, many years of underinvestment in power infrastructure and energy poverty in low-income households are the main issues. To eradicate this, the RSA government has rolled out several energy and energy efficiency programmes and initiatives with a strong emphasis on off-grid renewable energy solutions, hydrogen energy, and oil and gas (including shale) exploration opportunities. Since 2013, most of the country’s top construction projects have focussed on renewable energy projects. The country’s aspiration is to build up to an “industrial revolution” incorporating the development of a “Green Economy” which could significantly boost the nation manufacturing base. The aim of this brief is to provide a fact based analysis of the current energy landscape in RSA. This can then be used alongside the aspirations and grand challenges the country has identified to ascertain the scale of the issues that the country faces. This brief is not set out to “solve” the problems of today’s energy in RSA, but to provide the evidence needed to think more systematically about them.

Keywords Republic of South Africa (RSA) • Energy • Renewables • Hydrogen • Natural gas • Nuclear