REPORT BRIEF

TRANSITION PATHWAYS TOWARDS INCLUSIVE CLIMATE COMPATIBLE GROWTH

Modelling, Futures and Decision-Making in Zambia (TRAP-ZM)

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Introduction

This report presents the "Transition pathways towards inclusive climate-compatible growth: modelling, futures and decision-making in Zambia" (TRAP-ZM) research project. TRAP-ZM was carried out between 2022 and 2024 as a sub-project of the Climate Compatible Growth (CCG) programme, which is funded by the UK's Foreign, Commonwealth & Development Office. TRAP-ZM was a collaboration between the Zambia Institute for Policy Analysis and Research (ZIPAR), Tec Analytics, the Centre for Energy, Environment and Engineering Zambia (CEEEZ), Imperial College London (ICL), and University College London (UCL), with support from the University of Zambia (UNZA).

Findings

Using an interdisciplinary approach, the TRAP-ZM project combined participatory, qualitative, and quantitative methods, aiming to inform and advance climate-compatible transitions in Zambia. Scenarios exploring centralised, decentralised and hybrid versions of national development pathways were co-developed with stakeholders from various government ministries, civil society organisations, academia, and development partners (Section 3). This provided an overarching framework within which to discuss and analyse future system changes. To provide quantified perspectives of the opportunities for, and implications of, change in the wider energy system, an initial Whole Energy System Model (WESM) of Zambia was developed and enhanced (Section 4). A new economic analysis based on a Social Accounting Matrix quantified the economy-wide repercussions of corresponding investments in green energy (Section 5). A bespoke land-use change analysis was developed to further explore the land and biomass implications of the scenarios (Section 6), while policy analysis and interviews were used to assess opportunities and challenges for enhancing the circular economy in Zambia (Section 7). Finally, bespoke training was developed to strengthen the capacity of technical stakeholders working at the science–policy interface (Section 8).

Key Findings

The research presented here, and its underpinning approach, has the potential to support energy planning and wider sustainable development in Zambia. Achieving this relies on capacity building and effective knowledge transfer between the project team and wider stakeholders. To ensure technical modelling capabilities and model ownership are retained locally, the WESM of Zambia was co-developed with local practitioners who were trained in developing Whole Systems Approaches and in model building over the course of iterative analytical workshops. In order to support capacity building of non-state actors and technical experts with the necessary knowledge and skills to effectively engage with the policymaking process, TRAP-ZM also co-designed and delivered bespoke training on Political Economy and Policy Influence to influence evidence-based decision-making. Upon reflection, three features were essential to deliver the project, and can be fostered in future sustainable development research that aims to empower local energy system stakeholders: (1) an interdisciplinary research design that encompasses quantitative, qualitative, and mixed-methods; (2) an inclusive approach with diverse stakeholder groups; and (3) a systemic outlook to ensure trade-offs, synergies, and complexities are taken into account.

Policy Recommendations

To build an institutional framework that can support green growth through resilient, climate-compatible, and inclusive futures in Zambia, there is need to:

- Break down silos and ensuring inclusive decision-making by bringing together diverse groups of stakeholders.

  Take a whole systems view to further help overcome oversimplification and siloed thinking in policy design.

- Adopt mixed-methods approaches to decision-making as a means of embracing complexity.

  Foster the development of an institutional framework for futures thinking and analysis.