



## TERMS OF REFERENCE (TOR)

# Research Fellow: Energy Systems Modelling

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## About AISESA

The African Institute for Sustainable Energy and Systems Analysis (AISESA) is a pan-African platform that convenes researchers, policymakers, civil society, private sector actors, and financiers to co-create context-specific knowledge, tools, and capacity to advance Africa's energy, climate, and development agendas.

AISESA is grounded in the conviction that Africa's energy transitions must be designed, led, and owned by African institutions, and aligned with the continent's development priorities. The Institute works to bridge persistent gaps between research, policy, finance, and implementation by generating actionable knowledge, strengthening institutional capacity, and supporting decision-making processes across national and regional contexts.

AISESA operates through five interconnected clusters covering clean energy pathways, implementation, policy and governance, finance and technology, and institutional capacity. These clusters work both independently and collaboratively, contributing to integrated analysis and real-world engagement through thematic areas such as powering livelihoods, inclusive industrialisation, and urban transformation.

## About the Role

AISESA is seeking an Energy Systems Modelling Fellow to join Cluster 1: Clean Energy Pathways for Development.

This role is intended for a candidate with a strong foundation in energy systems engineering and modelling, combined with the ability to critically engage with how analytical tools are used in practice. The Fellow will contribute to understanding and improving how energy modelling and planning approaches reflect African economic realities, development priorities, and decision-making processes.

The role goes beyond the application of existing tools. It requires the ability to question underlying assumptions, adapt modelling approaches to context, and contribute to the development of analytical frameworks that are relevant, usable, and aligned with real-world planning needs.

The successful candidate is also expected to contribute to the longer-term development of AISESA's approach to energy systems analysis. This includes helping to build a robust evidence base on what appropriate, context-sensitive modelling tools and practices should look like in African contexts, and how these can better inform planning and investment decisions.

The Fellow will work closely with AISESA's existing Energy Systems Analysis Research Fellow, contributing complementary expertise and perspectives as part of a collaborative research effort. The two positions are designed to bring together different but complementary capabilities, combining technical, analytical, and contextual perspectives to advance AISESA's work.

## What Distinguishes this role

This is not a conventional modelling position focused on running scenarios or applying established tools. The role is centred on questioning how models are used, what they represent, and how they can be improved to better support decision-making in African contexts. The Fellow is expected to contribute to defining and advancing alternative approaches that are grounded in African realities and development priorities.

Over time, the work is expected to contribute towards shaping how energy planning is undertaken in practice. The Fellow will contribute to building AISESA's analytical approach and evidence base, with the aim of influencing how modelling and planning tools are designed, interpreted, and used in decision-making processes across the continent.

## Key Responsibilities

### Analytical and Research Work

- Contribute to mapping and diagnosing gaps between modelling outputs, policy processes, and real economy dynamics (including informal sectors, productive use, and livelihoods).
- Support the development of structured analytical frameworks that better integrate development considerations into energy systems modelling and planning.
- Contribute to the design, adaptation, or refinement of modelling approaches that respond to African energy system realities.
- Support country-level energy systems analysis and case studies, including the development and assessment of energy scenarios to inform planning and investment decisions.
- Support the development of applied outputs (e.g. policy-relevant analysis, application notes, or decision-support insights) that demonstrate how modelling can inform planning decisions.

### Cross-Cluster and Thematic Engagement

- Actively participate in cross-cluster collaboration from the outset, contributing to integrated work across implementation, policy, finance, and capacity dimensions.
- Engage in thematic work, where modelling insights are combined with other perspectives to address concrete development challenges.
- Contribute to joint outputs and ongoing analytical conversations that aim to build a coherent, multi-dimensional understanding of energy transitions in Africa.

### Knowledge Translation and Engagement

- Translate technical modelling outputs into clear, policy- and practice-relevant insights.
- Lead author and contribute to the preparation of research papers, policy briefs, and other knowledge products.

- Participate in stakeholder engagements, workshops, and dissemination activities at national and regional levels.

## Profile and Qualifications

The ideal candidate will have:

- A PhD in energy engineering, electrical engineering, energy systems, or a closely related field.
- Strong experience in energy systems modelling and planning, including familiarity with tools such as OSeMOSYS, LEAP, or similar platforms.
- Demonstrated ability to critically assess and adapt modelling approaches, including working with imperfect data and context-specific constraints.
- Experience linking technical analysis to development outcomes such as energy access, productive use, clean cooking, or industrialisation.
- Ability to communicate complex technical analysis clearly to non-technical audiences, including policymakers and practitioners.
- Experience or strong interest in interdisciplinary work at the intersection of engineering, economics, policy, and development.
- Experience with, or a strong interest in, AI, as this is expected to become increasingly important for modelers in the coming years.
- Experience working in African contexts and engaging with stakeholders beyond academia is an advantage.
- Fluency in English is required. Knowledge of French is highly desirable.

## Contract and Location

- Full-time, fixed-term Consultancy position
- Remote/flexible location within Africa
- Travel to pilot countries and partner institutions will be required

### How to Apply

Interested candidates should submit the following documents as a single PDF:

- A cover letter (maximum 2 pages) outlining interest in the role and how their experience aligns with AISESA's work
- A detailed CV (maximum 4 pages)
- A list of relevant publications or analytical work
- Contact details of three referees

**Applications should be sent to: [recruitment\\_aisesa@akademiya2063.org](mailto:recruitment_aisesa@akademiya2063.org) by July 3, 2026. Subject line: Energy Systems Modelling Fellow – Cluster 1**

Only shortlisted candidates will be contacted.