AFRICAN SCHOOL OF REGULATION

4-Week Online Course

The Integrated Framework for Electrification

An approach to universal electrification that can deliver on its promise.

SEPTEMBER 2025

OBJECTIVE

Progress towards universal access to electricity in many countries on the African continent is desperately slow, as it is acknowledged by all reputable authorities in the energy sector, who also coincide that the lack of access to reliable, sustainable and affordable modern forms of energy for all is the major challenge presently facing the energy sector in Africa.[1][2][3][4] Lack of adequate energy access impedes the necessary progress in education, health, industrialisation, communication, agriculture, services, etc. and, in summary, in well-being and economic growth for the fast growing African population.

The slow pace of progress arises from multiple factors, all of which ultimately connect back to a fundamental lack of ambition and a coordinated strategy in pursuing and implementing comprehensive solutions for full electrification and clean cooking. Without a bold, overarching vision linked to a fully integrated strategy, efforts are often restricted to small or medium-sized projects that, even when combined, fall short of meeting the scale of the challenge.

The Integrated Framework for Electrification (IFE) is a comprehensive approach to structure electrification processes at country scale, which allows ample implementation flexibility while respecting fundamental principles emerging from SDG 7.1 objectives.

Energy policies and regulations in many African countries currently hinder efficient infrastructure development, sustainable and scalable electrification models, private investment, and the alignment of economic growth with universal energy access and environmental goals. The ASR aims to drive regulatory changes by adopting best practices from both domestic and international contexts, tailored to the diverse circumstances of African countries.

This course explores the technical, regulatory, and financial approaches necessary for advancing electrification in sub-Saharan Africa. Achieving a sustainable energy model in Africa—one that integrates universal access, climate change mitigation, and decentralized energy resources amidst industrialisation—requires new policies, regulations, technologies, and skills. Sound regulation is essential for guiding this transition, as outlined in Agenda 2063.

The Integrated Framework for Electrification (IFE) centres on entities—public, private, or partnerships— each responsible for distribution within a designated area (typically through a concession model). These entities are tasked with ensuring universal electricity access, using an appropriate mix of electrification methods, supported by a viable business plan, cost-of-service regulation, viability gap funding, and risk mitigation strategies. Although private investment is crucial, its attraction depends on sustainable business models.

Elements of the IFE have been successfully implemented in electrification programs across the developing world, demonstrating its effectiveness in driving progress. While the full application

[1] IEA, Africa Energy Outlook, 2022. https://iea.blob.core.windows.net/assets/220b2862-33a6-47bd-81e9-00e586f4d384/AfricaEnergyOutlook2022.pdf

[2] IEA, IRENA, UNDSD, World Bank, and WHO. Tracking SDG 7: The Energy Progress Report, 2024. https://trackingsdg7.esmap.org/data/files/download-documents/sdg7-report2024-0611-v9-highresforweb.pdf

[3] IRENA, Renewable Energy Market Analysis, 2022 . https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Jan/IRENA_Market_Africa_2022.pdf

[4] IEA, World Energy Outlook, 2024. https://www.iea.org/reports/world-energy-outlook-2024

of this framework to scale up electricity access is still limited, the successful implementation in various regions highlights its potential to transform energy access on a larger scale.

This course will explore existing regulatory practices, identify barriers, and lay the foundation for designing effective reforms, with representative examples to illustrate these concepts.

By the end of the course, participants will be able to:

- Evaluate current electrification models in Africa and assess their effectiveness in achieving universal electricity access.
- Analyse regulatory and business models that support or hinder electrification efforts.
- Understand the principles of the Integrated Framework for Electrification (IFE) and its role in structuring national electrification plans.
- Examine real world case studies to assess the challenges and successes in implementing electrification projects in Africa.

DURATION

4 weeks.

Starting date: September 2025.

FORMAT

Online course.

LANGUAGE

The official course language is English. All essential course materials will be translated into French.

TARGET AUDIENCE

This course is designed for professionals across the electricity sector, including regulatory authorities, government ministries and agencies, utilities, academia, investors, and development organizations. It is also valuable for anyone seeking to understand the challenges hindering electrification programs—why progress remains slow, why private investment falls drastically short of what is needed, and what alternative approaches can drive meaningful change.
Participants will gain the knowledge, tools, and resources needed to effectively plan, design, regulate, and finance electrification at a regional or national level, with a focus on practical solutions that deliver real impact.

PRICE

$150 USD

COURSE STRUCTURE

The course provides a flexible e-learning platform that features a combination of resources – podcasts and readings, live lectures and discussions with the course instructors and guest experts.

The training is structured into weekly lessons, each focusing on a specific topic area. Learning content is delivered through four weekly online sessions with guest experts and facilitators, supplemented by carefully selected recommended readings. Optional office hours are available for extra support. Additional readings are provided for those who wish to explore topics further. Participants are required to engage with each other and with experts through forum discussions in the course platform. A weekly self-assessment quiz is provided to allow participants to test their level of understanding of the week's learning material. A short weekly written assignment will complete the understanding of how the material learned during the week applies in a specific context.

COURSE CONTENT

Module 1: A description and assessment of current electrification models in Africa.

This module provides an overview of current electrification models in Africa and highlights their contributions but also their shortcomings from the perspective of achieving universal access. The participants will be guided to understand and evaluate the key features of the existing regulatory, business and financial models, and the roles of various stakeholders in shaping energy access across Africa.

Module 2: The fundamentals of sustainable and scalable regulatory and business models for electrification

Module 2 examines the regulatory, business model and financial requirements that are essential to achieve universal electricity access in any country. The discussion will descend from the fundamental principles to their ultimate practical implications. Participants will learn how regulatory, business and financial designs influence the planning and implementation of electrification projects and how to adapt them to diverse African contexts.

Module 3: The Integrated Framework for Electrification (IFE)

In module 3, participants will learn the Integrated Framework for Electrification (IFE) as a flexible approach to planning, designing suitable business models that adapt to the specific circumstances of each country and financing electricity access. The fundamental steps of the IFE implementation will be covered: What has to be done to achieve full electrification (integrating mini-grids, standalone systems, and grid extension into a national electrification plans) and how much it will cost? Who will do it and with what business models? How will the electrification be paid? And how to engage the communities to be electrified and promote economic growth?

Module 4: Case studies in electrification with IFE

The final module shows how to apply the IFE approach to real-world scenarios through detailed case studies. Participants will analyse successful and challenging examples of electrification projects in Africa (Uganda and Madagascar), gaining practical insights into planning, regulation, financing and implementation.

COURSE ORGANISATION

STRUCTURE OF THE COURSE

The course consists of four equal modules, one per week. Each module includes the following activities:

- **A live class** of 2.5 hours duration. Each live class features a guest expert(s) on the topic and includes the main presentation, a break, a moderated panel discussion on the topic that has been covered in the main presentation, and a Q&A session.
- ***A mandatory reading plus optional readings*** (and links to relevant podcasts and/or videos) are provided to complement the content of the live session and for participants who would wish to learn more on the theme of the module.
- ***Discussions forum*** typically involving participants responding to one or more questions posed by the course instructors or the course participants in the discussion forum within the e-learning platform. The forums also provide participants with the opportunity to engage with each other's contributions.
- ***Optional Office Hour*** with the course instructor/facilitator to answer questions posed by course participants or clarify aspects of the course content is offered a few days after the session – with the possibility of sending questions in writing in advance.
- ***A personal assignment*** invites participants to choose a country and apply the week's specific topic to their selected country. The assignment should be no more than 2 pages. Final Submission at the end of the course: A compendium of all 4 papers.
- ***A self-assessment quiz*** is included at the end of each lesson, featuring multiple-choice and true/false questions. Each answer includes an explanation. A minimum score is required to pass the test, but participants may attempt it an unlimited number of times.
    - Both the quiz and the assignment must be completed before accessing the next session.

EVALUATION POLICY

Course participants may take the course at various levels with the corresponding certificates, and with the following estimated commitments:

1) Certificate of participation:

To receive a Certificate of Participation, participants must:

- Attend all live classes.
- Participate in at least 2 discussion forums.
- Finalise all quizzes.
- Deliver all assignments.

2) Certificate of excellence:

- Attend all live classes.
- Actively engage in all discussion forums with meaningful contributions.
- Finalise all quizzes.
- Deliver all assignments obtaining the minimum required score in all of them.