



RÉPUBLIQUE
FRANÇAISE

*Liberté
Égalité
Fraternité*



Photo © Michael Jung



FOURTH EDITION

DIGITAL ENERGY CHALLENGE

CALL FOR PROJECTS 2024

Boosting digital innovation in the energy sector,
by supporting start-ups and power utilities in Africa

#WorldInCommon



Co-funded by
the European Union

With the participation of



DIGITAL ENERGY CHALLENGE

CALL FOR PROJECTS 2024

The digital revolution is key to increase energy access, integrate renewable energy sources into the grid, decarbonize power systems and improve the performance of power utilities, especially in Africa. Public utilities, start-ups and technology providers can boost digitalization of electrical systems through innovation and demonstration of new technologies from the smart grid sector.

To support the digitalization of electrical power systems, the Digital Energy Facility, a European Union financed programme managed by Agence française de développement (AFD), launched the Digital Energy Challenge in 2021 with an annual Call for Projects. The 2024 Call for Projects, co-financed by the European Union and the French Agency for Ecological Transition, (ADEME), will focus on Africa due to the high needs on the continent.

One of the aims of the Digital Energy Facility programme is to gather private and public players in the energy and innovation sectors to facilitate partnerships to address these topics. The creation of an online Digital Energy community and the Digital Energy Challenge support such synergies.

APPLICATION PERIOD

4th March to 15th May 2024 included

HOW TO APPLY?

1. Choose the category Digital Energy Challenge for Start-ups or Digital Energy Challenge for Utilities.
2. Participate in the information webinar in English on 19th March 2024 at 2pm CET.
3. Complete the application form and prepare the required documents.
4. Submit your complete application online by 15th May 2024 23:59 CET.

For more information or to be added to the Challenge mailing list please contact us:

contact@afddigitalenergychallenge.com



WHO CAN APPLY?

- **Start-ups** in seed or early-stage activities looking to scale up their digital innovations or digital transformation projects.
- **Public utilities in partnership with innovative technology/service providers**, looking to implement innovative digital projects.



PROJECT ELIGIBILITY CRITERIA

All projects must be:

- **DIGITAL** i.e. have telecom, computer or cloud-based technology as a central element of the project;
- **INNOVATIVE** either intrinsically or in relation to the local market/country;
- **LOCAL** with management activities in the African country where the project is based.



BENEFITS FOR AWARD WINNERS

An annual budget of € 1.8M will enable awardees to benefit from financial and technical support.

- The financial contribution can be a maximum of € 150K for a start-up and € 500K for a public utility. This contribution includes grant-based funding and technical assistance to support project management.
- All winners are invited to participate in a bootcamp with experts to support the implementation of their project.

In addition, winners can benefit from increased visibility through widespread communication campaigns driven by AFD.

ARE YOU A START-UP

LOOKING TO SCALE UP
YOUR DIGITAL INNOVATION
OR TRANSFORMATION
PROJECT IN THE ENERGY
SECTOR IN AFRICA?

Does your project contribute to increasing energy access through mini-grids or improving grid management and electrical systems? After checking the eligibility criteria, [download the application pack and apply online.](#)

HOW TO APPLY?

1. Download the Start-ups [Application Pack](#)
2. Participate in the [information webinar](#) in English on 19th March 2024 at 2pm
3. Complete the application form and prepare the required documents
4. Submit your complete application [online](#) by 15th May 2024 23:59 CET.

ELIGIBILITY CRITERIA FOR START-UPS

The start-up must:

- Be less than 10 years old.
- Be in the pre-seed/early-stage financing phase i.e less than € 1M raised.
- Have an annual turnover of less than € 1M.
- Employ between 1 and 99 people full-time.

BENEFITS FOR START-UP AWARD WINNERS

The winning start-ups will each benefit from:

- **Project funding** of up to € 150K, which includes a **grant** to contribute to costs for equipment, software, training and recruitment. It also includes **technical assistance** awarded on a case-by-case basis, such as project management support, strategic/technical expertise and accounting or reporting assistance.
- A joint **bootcamp** with public utilities winners and multisectoral experts to support project implementation and foster synergies between project winners.
- **Communication campaigns** driven by AFD during the selection, award and release of funds periods.



© Jono Erasmus

ARE YOU A PUBLIC POWER UTILITY

LOOKING TO IMPLEMENT
A DIGITAL INNOVATION
PROJECT?

Does your project contribute to increasing energy access through mini-grids or improving grid management and electrical systems?

After checking the eligibility criteria, [download the application pack and apply online.](#)

HOW TO APPLY?

1. Download the [Utilities Application Pack](#)
2. Participate in the [information webinar](#) in English on 19th March 2024 at 2pm
3. Complete the application form and prepare the required documents
4. Submit your complete application [online](#) by 15th May 2024 23:59 CET.

ELIGIBILITY CRITERIA FOR UTILITIES

— The project owner must be an **African public power utility or organisation** (includes public Independent System Operators, private companies under a public service concession, power pools, regional organisations, energy regulators and rural electrification authorities).

— The innovative technology or service provider must be a national or international registered company, less than 15 years old, with more than 5 full-time employees and a turnover of less than €50M. In addition, the company must have developed an innovative solution to be tested within the Challenge and be in a business relationship with an African utility, supported by a signed (or near date for signature) memorandum of understanding.

BENEFITS FOR UTILITY AWARD WINNERS

The winning utility and technology/service provider partnerships will benefit from:

— **Project funding** of up to €500K in the form of a **grant** to support costs for equipment, software, products or services provided by the technology supplier and training; and **technical assistance** for project management support, strategic and technical expertise.

— A joint **bootcamp** with start-up winners and multisectoral experts to support project implementation and foster synergies between project winners.

— **Communication campaigns** driven by AFD during the selection, award and release of funds periods.



THREE PROJECT THEMES FOR THE 2024 EDITION



2. EFFICIENT GRID MANAGEMENT

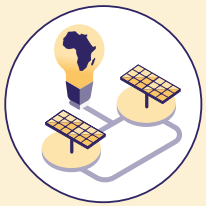
Digital services and products ensuring a proper operation of the power grid, with a focus on:

— Information availability and communication systems

- Grid data sharing, IT/OT integration;
- Grid mapping improvement (e.g. through satellite imagery, GIS database management and interfacing);
- Adoption of cloud computing and IoT-enabled systems.

— Streamlining Business-As-Usual grid operational management practices of the power system

- Optimisation of the assets' useful life through improved maintenance (digitized and remote maintenance):
 - Infrastructure inspection via drones and other new technologies;
 - Active monitoring of the assets' condition via smart sensors;
 - Data analytics to improve periodic and predictive maintenance;
 - Implementation of Dynamic Line Rating (optimising thermal limits according to weather conditions) and analysis of the grid's risk profile and resilience to extreme events;
 - Simulation tools for enhanced training and planning;
 - Management and supervision of grid interconnections;
 - Digitization of substations and feeders.
- ### — Increased power availability and service quality
- Technological developments allowing energy efficiency gains on transmission and distribution networks:
 - Reduction of technical losses and improved grid knowledge through grid data analysis;
 - Reduction of non-technical losses through metering (big) data analysis;
 - Improvement of power supply continuity:
 - Reduction of the number and duration of faults;
 - Load shedding minimization;
 - Enhanced customer relationship via service digitization.



1. UNIVERSAL ELECTRICITY ACCESS AND MINI-GRIDS

Digital innovations in the field of mini-grids to maximize their efficiency and impact:

— Energy management systems for the optimal use of clean and renewable energy.

— Software and hardware technologies for an efficient integration of productive use assets.

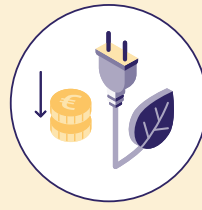
— Storage systems and algorithms minimizing the use of fossil fuel generators.

— Tools to facilitate interconnections with the main grid and with other mini-grids.

— Systems and algorithms for building-up nanogrids.

— Geospatial data analytics for power demand evaluation and/or credit risk assessment.

THREE PROJECT THEMES FOR THE 2024 EDITION



3. RESILIENCE AND DECARBONIZATION OF POWER SYSTEMS

Digital-based solutions enabling the development of a greener and more resilient power infrastructure (encompassing generation systems as well as the grid):

— Additional renewable capacity:

- Renewable power plant (including wind, solar, hydro, biogas) connection to the main grid;
- Renewable energy production maximization in hybridized systems;
- Renewable energy production forecast (leveraging on meteorological data) and monitoring to minimise curtailment and avoid grid outages;
- Other grid services needed for higher renewable energy penetration.

— Grid stability and flexibility:

- Integration of ancillary resources and services, such as energy storage via batteries;
- Grid balancing and capacity firming;
- Virtual power lines;
- Renewable energy procurement through peer-to-peer trading.

— Energy savings at the end-user level (Commercial & Industrial as well as households)

- Demand-response management;
- Smart metering solutions for improved consumption monitoring;
- Tools and applications to encourage and incentivize the adoption of energy-efficient appliances.



©Kibuuka Mukisa Oscar

CONTACT US

contact@afddigitalenergychallenge.com

NEXT STEPS

— 4th March 2024

Call for Projects opens

— 19th March 2024 (2pm-3:30pm CET)

Information webinar in English –
[enroll here](#)

— 15th May 2024 (23:59 CET)

Deadline for receipt of applications.
All applications must be uploaded
via the respective [Start-ups](#) or [Utilities](#)
web pages.

— Autumn 2024

Notification of award winners and bootcamp

— End 2024

Signature of contracts and release of funds

WORDS FROM A CHALLENGE WINNER

Nejib Chtoutrou – Deputy General Manager
Société Tunisienne de l'Electricité et du Gaz (STEG)

Nawal El Boghdady – CTO
Nexus Analytica

Project: Integrated platform to monitor, forecast
and optimize readings from different energy sources.



Our partnership with
Nexus Analytica and the support
from the challenge will enable
us to better detect non-technical
network losses but also predict
photovoltaic production capacity.



Nejib Chtoutrou
Deputy General Manager, STEG

ELIGIBLE COUNTRIES

The Digital Energy Challenge Call for
Projects 2024 supports projects in
the following countries:

Algeria, Angola, Benin, Botswana, Burundi,
Cabo Verde, Cameroon, Central African
Republic, Chad, Comoros, Congo Democratic
Republic, Congo Republic, Côte d'Ivoire, Djibouti,
Egypt, Equatorial Guinea, Eritrea, Eswatini,
Ethiopia, Gabon, The Gambia, Ghana, Guinea,
Guinea-Bissau, Kenya, Lesotho, Liberia, Libya,
Madagascar, Malawi, Mauritania, Mauritius,
Morocco, Mozambique, Namibia, Nigeria,
Rwanda, Sao Tome and Principe, Senegal,
Seychelles, Sierra Leone, Somalia, South Africa,
South Sudan, Sudan, Tanzania, Togo, Tunisia,
Uganda, Zambia, Zimbabwe.

Towards a world in common

AFD Group contributes to the implementation of France's policies for sustainable development and international solidarity. The Group includes Agence Française de Développement (AFD), which finances the public sector, NGOs, research and training; its subsidiary Proparco, which is dedicated to the private sector; and Expertise France, a technical cooperation agency. The Group finances, supports and accelerates the transitions needed for a fairer, more resilient world.

With our partners, we are building shared solutions with and for the people in more than 150 countries, as well as in 11 French Overseas Departments and Territories. As part of the commitment of France and the French people to achieving the Sustainable Development Goals, our teams are at work on 4,200 projects in the field. Our objective is to reconcile economic development with the preservation of common goods, from peace, the climate and biodiversity to health, education and gender equality. Towards a world in common.



www.afd.fr

Twitter: @AFD_France - Facebook: AFDOfficiel - Instagram: afd_france

5, rue Roland-Barthes -75598 Paris cedex 12 -France

Tel.: +33 1 53 44 31 31