



STEPS - Sustainable Electrification of Public Services

Unlocking finance to transform lives through solar energy

Access to a stable source of electricity is a key enabler of public services. Yet, despite sustained growth of solar electrification in the private sector across Africa, tens of thousands of public health facilities, schools and other institutions remain without power because of both the size and scope of funding that is being made available.

Lack of access to reliable electricity remains a significant challenge across Sub-Saharan Africa (SSA), the least electrified region in the world where only 48% of the population have access to electricity. In population terms this means 570 million people across the continent live without access to electricity - that's 77% of the total unelectrified population globally.



Health workers rely on electricity for:

- Treating patients after dark
- Operating security lighting during the night
- Pumping water for use at health facilities
- Sterilisation of equipment
- Operate fans for cooling
- Internet access
- Electronic medical record-keeping
- Cold storage of vaccines and blood
- Operating oxygen concentrators



Teachers and students need electricity to:

- Power computers
- Access the internet
- Operate fans for cooling
- Pump water for use at schools
- Light classrooms

Electricity Access for Health

The World Health Organisation estimates that across sub-Saharan Africa over 66,000 health facilities still don't have access to reliable electricity, with at least 25,000 facilities having zero access to power.

In South Sudan 1,576 health facilities (or 89% of all facilities nationwide) lack access to electricity.

For Sierra Leone, a detailed electrification roadmap covering health and education, published by SEforALL in 2023, estimates that 1,000 primary health facilities still require access to electricity.

"The intermittent energy supply discourages and impacts the morale, especially during the night shift as it affects the effectiveness and safety of the services". Health facility worker in the Bombali District of Sierra Leone



Childbirth in many countries too easily becomes a life-threatening experience, as unreliable power at public health facilities means women must give birth in the dark, or perhaps by candlelight, which is often fatal if there are complications with the birth.

Maternal mortality in Africa is over 500 deaths per 100,000 live births, more than double the global average and 50 times higher than in high income countries. In Sierra Leone and South Sudan, the figure is over 1,000.

Electricity Access for Education

In Sub-Saharan Africa, 4 out of 5 schools lack access to electricity. This has a direct impact on the quality of education for hundreds of millions of children. In Sierra Leone, around 1,700 secondary schools are permanently without power meaning none of the learning in classrooms can benefit from access to the internet.

In Zambia, for example, computer science is a mandatory subject but without a stable energy supply, children learn about computers from diagrams on a blackboard. The impact on the vital education of children in a world increasingly reliant on technology is debilitating.

Why has progress been so slow?

Solar power combined with battery storage is now the cheapest way to generate electricity in most cases. The African private sector market for provision of solar by energy service provider companies (what's known as 'Energy As A Service') is booming, but electrification of public facilities lags far behind. This is because:

- Governments in low-income countries often can't afford nationwide public facility electrification, in part because they struggle to raise sufficient taxes.
- Most donors, who already invest millions installing solar panels, operate on short project cycles and often fail to provide support for ongoing operations and maintenance;
- Energy Service Providers (ESPs) are reluctant to enter the market to provide energy to government services – the risk of government non-payment is too high and they are unwilling to take the reputational risk of cutting off facilities like schools and clinics if the government doesn't pay its energy bills.
- Many donors are not comfortable routing funding through recipient governments because of unduly negative perceptions of risk.
- Public facility electrification has historically been a low priority for donors and impact investors.

Crown Agents is the not-for-profit international development company that works in partnership with clients to design and implement practical solutions to their needs. We manage complex, large-scale sustainable programmes that improve government systems, engage citizens and create resilient supply chains. Examples in climate and energy include our support for capacity building for climate change via the UK Partnerships for Accelerating Climate Transitions, providing over 200 experts for skillshares, including unlocking climate finance, and supporting inspection and management of thousands of solar installations across sub-Saharan Africa schools and clinics.

Integrity Action is an award-winning leader in citizen-centred accountability. They have monitored over \$1bn projects and services in 20+ countries. Since 2019, 77% of all problems identified by monitors have been resolved. They do this by equipping citizens to 'review' products and services where they live, report problems publicly via the DevelopmentCheck app, and work with those responsible to ensure problems are fixed.

Bamboo Capital Partners are specialists in developing innovative financing solutions for emerging markets, targeting companies whose products, services or operations result in positive social and environmental good. The company has a strong track record of effective engagement with the private sector to structure and manage funds that meet both the needs of private capital and the needs of private sector companies. BCP are experienced in structuring blended finance facilities that leverage different types of capital to accelerate positive developmental outcomes in low- and middle-income countries.

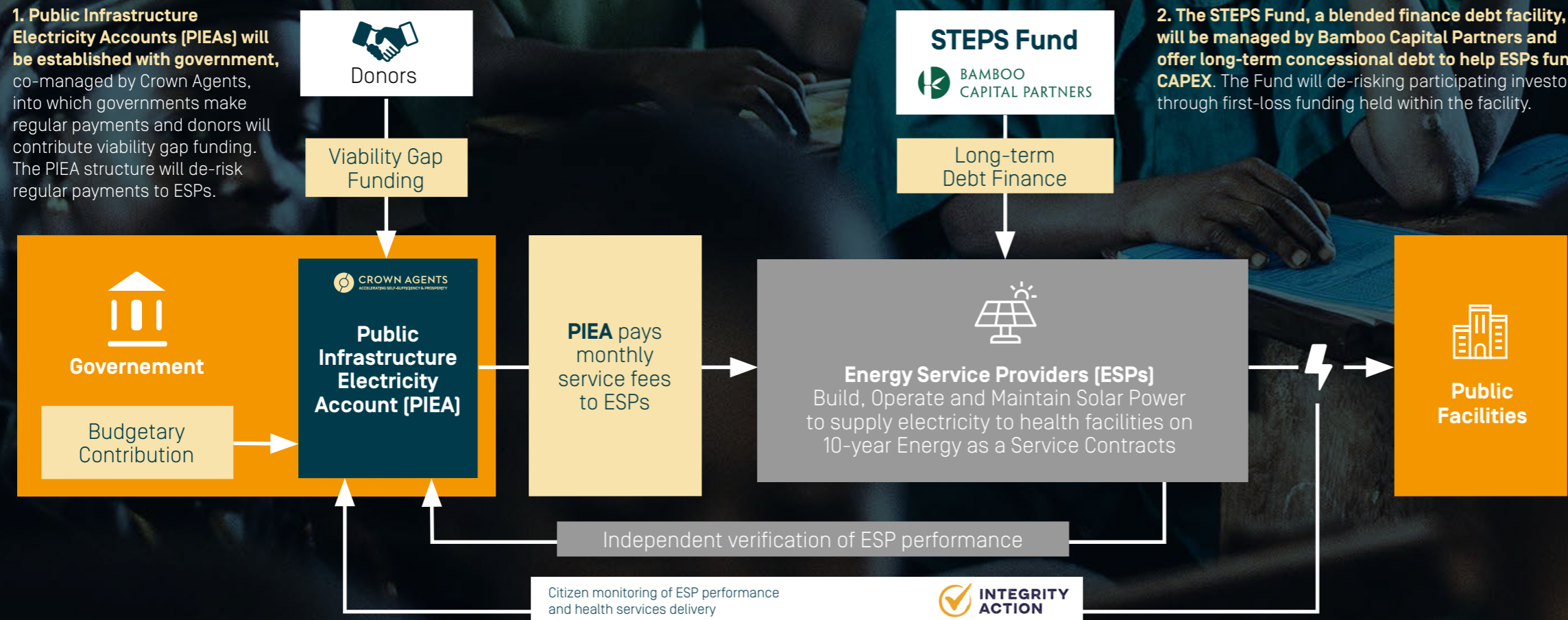
Our solution

Crown Agents, in partnership with Integrity Action and Bamboo Capital, has developed an EaaS financing model that overcomes barriers to long-term service provision from ESPs. Our **Sustainable Electrification of Public Services (STEPS)** model addresses each of the problems above head on. It enables governments to play their role in energy provision for public facilities, working in partnership with ESPs, who are incentivised to take on responsibility for the installation, operations and maintenance of the solar equipment. As a result, public facilities are able to receive a reliable supply of electricity over a 10-year period, transforming the quality of services they can offer to local populations. The STEPS model overcomes market failures and delivers sustainable electrification of public facilities by:

- 1. Public Infrastructure Electricity Accounts (PIEAs) will be established with government**
- 2. The STEPS Fund, a blended finance debt facility, will be managed by Bamboo Capital Partners and offer long-term concessional debt to help ESPs fund CAPEX**
- 3. Citizen monitors will be deployed by Integrity Action to provide independent verification of ESP performance**

1. Public Infrastructure Electricity Accounts (PIEAs) will be established with government, co-managed by Crown Agents, into which governments make regular payments and donors will contribute viability gap funding. The PIEA structure will de-risk regular payments to ESPs.

2. The STEPS Fund, a blended finance debt facility, will be managed by Bamboo Capital Partners and offer long-term concessional debt to help ESPs fund CAPEX. The Fund will de-risking participating investors through first-loss funding held within the facility.



3. Citizen monitors will be deployed by Integrity Action to provide independent verification of ESP performance and to monitor the quality and availability of public services at electrified facilities.



THE NEED FOR CHANGE IS URGENT

Your investment in STEPS can help enable public institutions to deliver better services to millions of people

The pace of progress on fundamental human development goals like reducing child and maternal mortality and increasing access to quality education is too slow. Efforts to provide sustainable electricity to schools and clinics across Africa need to be accelerated for there to be any chance of reaching sustainable development goals for health and education by 2030. The STEPS programme is designed to speed up change by being:

- **TRANSFORMATIONAL:** we know that this approach can be taken to scale and that bringing sustainable power to rural schools and clinics would have a huge impact on the quality of healthcare and education across the continent
- **SUSTAINABLE:** this isn't a one-off sticking plaster approach, but a solution that will continue to have impact over a decade or more.
- **DISRUPTIVE:** it's an innovative approach which rejects prevailing practice and is grounded in a clear eyed critique of the market failures (and poor value for money) that shape current approaches
- **GREEN:** changing lives for millions across the continent using clean green power from the sun, ending the need for diesel generators and putting countries on a climate compatible pathway

You can help enable STEPS implementation by providing:

- **VIABILITY GAP FUNDING** which supports government payments and helps ensure that ESPs have confidence to take on public facility electrification contracts.
- **FIRST LOSS CAPITAL** to protect STEPS fund investors against defaults on repayments from ESPs, and to attract private capital to multiply the impact of donor contributions.
- **GRANT SUPPORT** for citizen monitoring and impact measurement

An example investment of \$ 75million would provide reliable electricity for 10 years to **2700** Primary health facilities and secondary schools in Sierra Leone, based on a lifetime cost of \$27,500 per facility.

Social and financial return:

- Funders of STEPS will have a direct impact on the provision of improved public services. We will be able to demonstrate this through community monitoring and evaluation that will report regularly on health and education progress achieved as a result of solar electrification.
- Impact Investors contributing to the health facility electrification fund will also have guaranteed financial returns, backed by a first-loss facility within the fund.



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