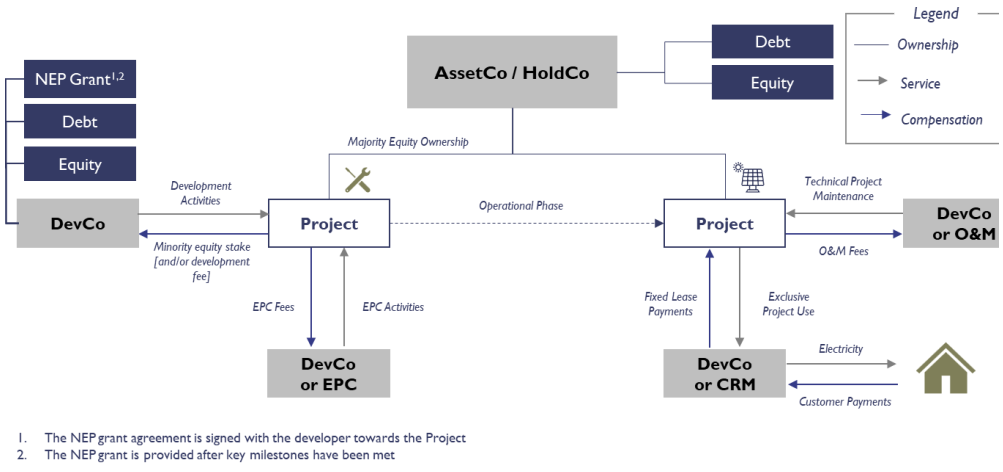
MITIGATION & ADAPTATION
BLENDED

Project Name	**Rural electrification project supported by the Nigerian Electrification Project (NEP)**[1]
Country/Region	Nigeria
Sector	Energy
Project/Investment Amount	REA, through NEP, secured $350M from the World Bank and $200M from the African Development Bank, with a target to crowd in an additional $660M of private capital. NEP results-based financing (RBF) grants have helped to mobilize debt and equity into commercial investments in off-grid energy. For example, an NEP grant helped to mobilize more than $5M in equity financing from a commercial investor toward the development of a portfolio of mini-grids across rural communities in Nigeria.
Development Partner(s)/Stakeholders	World Bank, African Development Bank
Benefciary Ministry/ Institution	Nigerian Rural Electrification Agency (REA)
Investor(s) and Funders	Undisclosed
GUIDEBOOK TAXONOMY FINANCIAL SYSTEM ACTOR	Public Balance Sheet (via REA and NEP) Multilaterals, Bilaterals and DFIs Undisclosed 'commercial investors'
Project Overall Goal	NEP aims to address an energy access gap by providing electricity to households, MSMEs, health and education facilities in rural communities, by deploying off-grid solutions such as mini-grid, Solar Home Systems (SHS), captive power plants, and productive use appliances. Specific goals include connecting more than 3.5 million people, providing more than 700,000 households with electricity, energizing more than 100,000 MSMEs, and supplying 400 primary health centers with reliable power
Project Outcomes	NEP has already provided electricity to more than 3.8 million people, connected more than 680,000 households and nearly 5,000 MSMEs. Additionally, 400 primary health centers are undergoing procurement for energy.
Alignment with Country Identified Climate Strategies, NDCs, etc. (if applicable)	The project contributes to Nigeria's Electricity Vision 30-30-30, by which Nigeria aims to generate 30% of its power from renewable energy by 2030. It is also aligned with the National Renewable Energy and Energy Efficiency Policy (NREEEP) (2015), which targets renewable energy capacity (including large hydro) of 23 GW by 2030.
Contribution of the Project to the UN SDGs	SDG 7: affordable and clean energy SDG 13: climate action
Socioeconomic Impact	NEP addresses the energy access deficit by providing electricity to underserved rural communities through a private sector-driven approach
Environmental Impact (on climate mitigation and/or adaptation)	NEP supports both climate mitigation outcomes through the provision of cleaner sources of electricity, and climate adaptation through distributed energy generation infrastructure that enhances resilience
Enabling Environment (Supporting Policies)	• NEP has benefited from existing policies such as the National Renewable Energy and Energy Efficiency Policy (REEEP) which was introduced in 2015 and aims to outline the government's

[1] This case was provided by CrossBoundary as a contribution to the Sharm El-Sheikh Guidebook for Just Financing

	approach to increasing the adoption of renewable energy sources within Nigeria's energy mix. ● NEP-supported projects have also been supported by Nigeria's clear regulatory framework supporting isolated and inter-connected mini-grids. The cost-reflective tariff regime implemented by the Nigeria Electricity Regulatory Commission (NERC) has also enabled viable project economics.
Technical Assistance (If Provided)	NEP offers a range of technical assistance to public and private sector actors in Nigeria's off-grid sector. In the example of an NEP RBF grant mobilizing equity into a portfolio of mini-grids, the commercial investor received due diligence support and the developer received financial modeling support, funded by USAID under the Power Africa Nigeria Power Sector Program.
Financing model/approach (ex: Blended finance)	The example transaction leveraged a blended finance structure in which the RBF grant from NEP helped to attract equity financing from the commercial investor. The financing structure also included debt funding secured by the developer.
Rationale for financing model/approach	The NEP grant enabled the project to meet the commercial investor's risk-return threshold, which may not have otherwise been possible. In addition, an AssetCo financing approach was used to ensure incentives were aligned for the commercial investor (sufficient IRR supported by predictable cashflows through lease payments) and the mini-grid developer (upside provides an incentive to ensure close to 100% revenue collection).
FINANCIAL INSTRUMENT(S) (LOANS (COMMERCIAL/ CONCESSIONAL), EQUITY, GUARANTEE)	The example transaction included the following instruments: ● RBF grant funding from NEP ● Equity funding from the commercial investor and developer ● Debt funding from the commercial investor and developer
Diagram of the financing structure	**Example transaction enabled by NEP RBF grant:**  1. The NEP grant agreement is signed with the developer towards the Project 2. The NEP grant is provided after key milestones have been met

Executive Summary

The Nigerian Electrification Project (NEP) is a private sector-driven Federal Government program, funded by the World Bank and African Development Bank, with the goal of powering Nigeria and catalyzing sustainable off-grid development through mini-grids, solar home systems, captive power plants, and productive use appliances. It comprises several components, including:

- Solar Hybrid Mini Grid for Economic Development
- Standalone Solar Home Systems for Households and MSMEs
- Results Based Financing for Productive Appliances and Equipment
- Energizing Education Program
- Technical Assistance
- Solar Power Naija

Under the solar hybrid mini-grid component, a Performance-Based Grant Programme, funded at US$48 million, provides grants of US$600 per connection to qualified mini-grid developers on a milestone basis: 1) delivery of goods to sites, 2) commissioning of mini-grid and initial customer connections, and 3) three months of successful, verified connection.
Under the solar home system component, a US$60 million Output Based Fund provides grants of up to 60% of the costs of the solar home system – of which 20% must be passed on to the end user to reduce the price of the product. Over the life of the program, the size of the grants will be reduced. This grant support helps unlock other sources of funding such as commercial debt by reducing the risk to lending entities.
NEP's results-based financing grants can support commercial investors to meet their risk-return threshold for investment and support large-scale investment into the off-grid sector in Nigeria. For example, the NEP RBF scheme helped to mobilize an additional >$5M of private capital from a commercial investor who sought to acquire a majority equity stake in a mini-grid project. The mini-grid project is expected to provide clean and affordable energy to more than 10,000 residential customers, 1,500 MSMEs, and around 100 productive use customers in rural communities in Nigeria.

Analysis

What made this project successful?	The project succeeded largely due to two factors including a) availability of performance-based grant to attract commercial investment b) leveraging an innovative financing structure that can enable financing of mini-grids at scale. The blended finance approach enabled by the NEP grant permits the ideal return threshold for the commercial investor and developer to fund the project. The innovative financing model used also addresses some of the key barriers to financing mini-grids at scale such as i) lack of contracted cashflows – the lease payment was attractive to the commercial investor who sought predictable cashflows, and ii) inability to pool asset – the pooled assets allowed for larger capital deployments thus reducing the transaction costs that would have otherwise resulted from individual asset financing. In this case, the pooled assets also enabled the project's capital requirement to meet the commercial investor's minimum investment size criteria.
To what extent is this model scalable?	This financing model is likely to attract institutional investors seeking predictable cashflows while for developers, the model provides a potential path to raising capital for mini-grids at scale. The financing model also allows mini-grid assets to align more closely with existing utility models with the goal of gradually increasing risk appetite of lenders towards the sector - a key factor needed to scale mini-grids. To this end, the model can potentially unlock commercial bank capital to the sector which has been limited in part due to concerns about the bankability of mini-grid projects; the viability of the underlying mini-grid assets and the developer's track record will be critical. The model can also help to attract institutional investors such as large infrastructure funds with large ticket size requirements. Finally, the model will allow the project investors to diversify risk if the project's assets are pooled into different regions and communities.
What are the necessary conditions to make it replicable in other countries/regions?	Performance based grants play a critical role in scaling infrastructure. In this case, the NEP grant helps to attract the required commercial capital to scale mini-grids through a blended finance structure. The availability of such a grant will be beneficial in other countries/regions. However, underpinning this is the availability of clear and favorable off-grid regulations. Nigeria benefits from attractive mini-grid regulations which has incentivized private sector investment. Therefore, the model is likely to be more easily replicated in countries with a supportive enabling environment for off-grid solutions. On a micro level, the developers will likely need to have built operating history - largely through individual asset financing - to provide comfort to financiers including institutional investors and commercial banks seeking to scale this approach.
Constraints/Drawbacks of Financing Model	• The financing model relies on grant funding to attract commercial investment • A potential drawback is that the income stream will be dependent on the developer's ability to cover cashflow shortfalls between collections and the contracted lease payments to the commercial investor (i.e., AssetCo) • Despite contributing a larger portion of the CapEx, the AssetCo debt will be repaid pari-pasu with the developer's debt; however alternative structures are possible subject to agreement of the stakeholders involved • The financing model is likely to favour larger, more established mini-grid developers who have greater access to capital • The model does not entirely address some of the key barriers to investment such as the high-risk perception of commercial banks who typically require collateral to lend to mini-grid projects - commercial investors however may explore leveraging the project's cashflow (lease payments) as collateral

Lessons Learnt	• Well-designed performance-based grant is an effective strategy to attract commercial investment • The innovative financing model used was key to address barriers to financing mini-grids such as lack of predictable cashflows, and lack of economies of scale

Sources:

- https://nep.rea.gov.ng/about-nep/
- CrossBoundary