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# SUMMARY: NIGERIA CONVENING ON ACCELERATING SMALL-SCALE ENERGY SOLUTIONS

On 3<sup>rd</sup> November 2022, E3G hosted a virtual convening to provide the platform for the exchange of insights from across multilateral development banks, government agencies, development finance institutions (DFIs), project developers, associations, and private sector players and to discuss pressing challenges and opportunities facing the scale-up of small-scale energy solutions, including distributed renewables, energy efficiency, and storage.

## Key takeaways

1. **Integration and coordination** between finance and policy and coordination among donors need to happen in order to scale up small energy solutions fast.
2. **Standardisation** of qualities, manufacturing/assembling, procurement/deployment, and maintenance of the solutions will increase users' and investors' confidence.
3. **Energy access for productive use** provides a viable business model for small-scale deployment, and enables small-scale to support economic growth and productivity
4. **Strengthen policies and regulations for small-scale solutions beyond minigrid and off-grid solar.** The seeming focus on few small-scale solar makes it difficult to reap the benefits of other small-scale solutions like energy efficiency. Supporting small-scale solutions that have received less attention can boost financing in small-scale overall.
5. **Developing local financing solutions is key.** Policies that incentivise accelerated roll-out of small-scale solutions on the state level are needed to enable decentralised implementation of federal-level regulations.
6. **Improving local value chain for small-scale solution for macroeconomic impacts.** Local manufacturing and assembling of small-scale solutions provide macro-economic benefits which in-turn incentivises more public sector investment flows to the sector. This is particularly important given



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the exchange rate challenges depriving Nigeria from reaping the benefits of global declining cost of solar PV and balance of system.

### Speakers' remarks

Lisa Fischer, Programme Leader at E3G spoke to the need for a step change of pace and scope of deploying small-scale energy solutions, while noting that the topic is not yet on top of the international finance agenda. The key question the workshop aims to address is: what is the broader enabling landscape needed for small-scale energy solutions?

Annisa Sekarintias, Senior Researcher at E3G started by sharing the analysis and findings from the policy briefing on **MDB finance on small-scale energy solutions**. The briefing analysed the investment gap for small-scale energy solutions, structural barriers within MDBs to scale up finance, and recommendations to address those. Distributed renewables and energy storage only account for 0.5% and 1% of total MDB energy-related finance, respectively. Currently, MDBs finance only 1.2% of the public investment needs for small-scale energy solutions, estimated to be at least \$302 billion. Among other things, the policy recommendations are: MDBs need to adjust incentive structures in the project development process to allow small-scale energy projects to gain priority over larger fossil fuel projects, while shareholder governments must play a more active role in recognising the benefits of small-scale energy solutions by integrating them into national energy transition and development plans.

Benjamin Curnier, Principal Green Mini-Grid Officer at African Development Bank (AfDB) spoke to the lack of success stories in mini-grids deployment, noting that the sector has not been able to achieve the scale needed. Funding still needs to be mobilised into three areas: generating green baseloads, green mini-grids, and energy efficiency. There is also a clear need for more concessional finance or grants as many projects are not yet commercially viable. The challenges in scaling up small-scale solutions include reluctance of the private sector be involved in countries and lack of understanding of private sector's role and potential benefits; restrictive regulatory environments; duplication of efforts due to the lack of coordination between donors; predominant focus on electrification for electrification's sake and a lack of focus on boosting the efficiency of end-uses. Lastly, he spoke of the need to move away from bespoke electrification projects towards stimulation projects, how financiers should not be restraining support in the fear of 'over-subsidy', and to reduce administrative burdens for developers.

Dr Sanusi Ohiare, Executive Director of Rural Electrification Fund at Nigeria's Rural Electrification Agency spoke to the need for deploying off-grid solutions to boost



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electrification and highlighted that the government's political will helped to create a specific agency to address electrification. Positive signals can also be seen from the Nigerian Central Bank's and MDBs' involvement in the sector. The government has been supporting rural development by de-risking the investment environment to encourage more active participation of private sector. Similarly, he stressed the need to ensure productive use of these energy solutions. Dr Sanusi agreed on the need for better coordination attracting further finance in order to enable the deployment of small-scale solutions at scale and speed needed. Among most persistent challenges, he mentioned currency problems which inhibit the developers struggle from securing debt from the banks. Borrowing in foreign currencies exposes developers to the risk that debt and debt service payments increase when their local currency depreciates.

## Discussion

The discussion was held in two breakout rooms, addressing (i) finance and business models, and (ii) policy, governance, and standards. The participants have discussed best practices and gaps in the landscape needed for deploying small-scale solutions in Nigeria and came forward with several recommendations.

### Finance, business model

#### ➤ What are some of the working solutions?

- Results-based financing (RBF) mechanism is showing promises to be one of the main financial instruments to support small scale – providing connection-based subsidy as an additional stream of revenue to incentivise project developers and investors;
- Local financing has shown critical value as demonstrated by InfraCredit's local currency financing, and risk-mitigating instrument to crowd-in local institutional investment like pension fund. However, there is need for improved framework to encourage more local financial institutions to invest in small-scale solutions;
- SEFA (Sustainable Energy Fund for Africa) emphasizes the importance of standardization and working with local networks;
- To address the granularity of small-scale energy and reduce its capital costs, Odyssey's DART Procurement Platform aggregates the purchase orders for solar PV equipment. **'The Demand Aggregation for Renewable Technology (DART) Program** combines demand pooling, aggregated purchasing and coordinated logistics for solar equipment, with access to affordable finance, to unlock efficiencies in the supply



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chain to accelerate the growth of the renewable energy sector in Nigeria and beyond’;

- DART Working Capital Facility also helps to provide equipment financing for mini-grid developers while its Innovation Hub initiative provides venture support to local companies involved in small scale solutions;
- CLASP/Nithio Appliance Financing initiative supporting rural access to energy-efficient and low-cost appliances for productive-use of energy including agro-processing;
- Power Africa technical assistance on financial modelling and transaction advisory for small-scale projects;
- REA/RMI Energizing Agriculture supporting improved capacity utilisation of mini-grids to power agricultural loads, and piloting new business model to scale-up adoption.

➤ **Where are some of the gaps?**

- Scaling up requires not only an increased amount of finance but also working business models;
- There is a strong need to connect power to productive use (e.g. Energizing Agriculture with Rural Electrification Agency) - promoting productive use in agricultural value chains;
- The long regulatory approval processes also hinder developers. Donor finance tends to be patient, but other types of finance are much less flexible. There comes a chicken-and-egg situation around finance/regulatory approval;
- The need for favourable interest rates, and scale-up of local currency financing;
- Improved utility participation in small-scale energy solutions through innovation in business model, project identification and development, and mapping of demand clusters.
- Loans to individuals rather than Ltds are challenging and often rejected;

➤ **What change needs to be done domestically?**

- Currency risk a big issue for financiers;
- Convene and bring the finance provider and regulatory stakeholders together;
- Improve the approvals process - bring funders/financiers into the regulatory review process (Camco Energy as financier, African Minigrid Developers Association (AMDA) brings regulatory focus);



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- **What change needs to be done internationally/regionally?** (e.g., by MDBs, through economic cooperation, ...)
    - Mini-grid developers need to develop their Environmental, Social and Governance (ESG) systems, especially those approaching infrastructure financiers;
    - Stronger partnerships and coordination between development partners and finance providers.

### **Policy, governance, regulation, standards**

- **What are some of the working solutions?**
  - Building energy efficiency code (BEEC) gives credits for installing energy efficient equipment (work predominantly for fossil-based generation and not RE generation);
  - Mini-grid regulation supporting mini-grid roll out for villages or rural areas without electricity access and underserved markets. Mini-grid regulation is in review process to support investors to have portfolio of several mini-grids;
  - Coordination of mini-grid sector by Rural Electrification Agency providing de-risking incentives in partnership with multilateral and multi-donor initiatives to scale-up adoption;
  - Standardized tendering platforms and templates.
- **Where are some of the gaps?**
  - Lack of utilities participation in energy efficiency and the need for energy efficiency to be taken into account in the tariff charged by the distribution companies (DisCos);
  - Incentives to roll out not only efficient, but renewables-based/solar power generation. The current buildings energy efficiency code (BEEC) might disincentivise investments in renewables, even though it fosters energy efficiency;
  - Implementation of BEEC at the state level/ making sure decentralised implementation can take place;
  - Lack of clarity over what the benefits of BEEC to the consumers are (e.g. preferential tariffs).



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➤ **What change needs to be done domestically?**

- BEEC needs a force of law or legislation for effective implementation and enforcement;
- We need to change the regulatory focus from "Energy Efficiency" to "Decarbonization". The Building Energy Efficiency code gives credits for installing energy efficient appliances, irrespective of the energy source. Regulation should target carbon intensity rather than just the amount of energy consumed.
- New business model-oriented financing mechanisms to support energy efficiency improvements (akin to Ghana Eco-fridges adoption using on-wage and on-bill financing)
- Regulations that incentivise linking energy efficiency and renewables measures/help to think them together
- Engage more with the State government authorities to raise awareness on the benefits of energy efficiency, and domestication of BEEC at sub-national levels
- Address smart metering gap to be able to verify and track energy efficiency benefits;
- Link BEEC with decarbonisation and sustainable economic development agenda rather than in silo. This includes making compliance to the BEEC provisions on uptake of small-scale solutions, such as solar water heating and off-grid solar systems, part of the mandatory requirements for building plan approvals. Preferably one starts with commercial and government buildings, and subsequently includes private buildings with subsidies provided to avoid distorting the deployment of affordable housing.

➤ **What change needs to be done internationally/regionally? (e.g., by MDBs, through economic cooperation,...)**

- Standardisation of mini-grid tariffs. This could include implementing a uniform national tariff for equitable electricity access, and piloting Time of Use tariff to identify viable alternative tariff designs with potentials to reduce storage costs and maximise economic and social benefits of mini-grids. These could preferably start with interconnected mini-grids rather than isolated ones whose tariff may be difficult to be harmonized or made responsive to time of use.



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- Improved partnerships and skill-share on capacity gaps in the areas of project management, co-design of incentives, regulation, financing mechanisms, learning from standards for small-scale solutions;
  - Improved peer-to-peer skill-share with countries where building codes have worked well in terms of design, implementation, and governance. If well designed and governed (incl. incentives), building codes could accelerate adoption of small-scale solutions like solar water heating (SWH) and off-grid solar systems, thus reducing pressure on the utility grid. SWH comes with economic benefits for home-owners to reduce energy bills, creation of jobs for welders and fabricators of SWHs, etc. see Southern African country where SWH has become part of the mandatory requirements for approving building plans.

### Next steps

- These results will also be published on E3G website and will inform the coming report/policy briefing on mainstreaming small-scale energy solutions in national planning, planned to be launched in the first quarter of 2023.
- Should you wish to continue the discussion and continue engaging with the network, please reach out to us and we will add you to the mailing list. ?
- We would be keen to hear your feedback and welcome ideas for future collaboration. Please reach out to [annisa.sekaringtias@e3g.org](mailto:annisa.sekaringtias@e3g.org) with your thoughts and comments.