



Clean Captive Installations in sub-Saharan Africa

Webinar | Session 1

Calls for Proposal

FS-UNEP Collaborating Centre

15th July, 2021 | Total duration - 75 minutes

Supported by:



based on a decision of the German Bundestag



Frankfurt School
FS-UNEP Collaborating Centre
for Climate & Sustainable Energy Finance

Webinar | Agenda

Session 1

START	TOPIC	PRESENTER
5 minutes	WELCOME Opening remarks on the progress of CCI project	MESERET ZEMEDKUN (UNEP) DIANA KOLLANYI (FS-UNEP Collaborating Centre)
25 minutes	OPEN CALL FOR PROPOSALS Introduction to the framework document, application process, selection criteria, application timelines, application forms	MADHUMITHA MADHAVAN (FS-UNEP Collaborating Centre)
15 minutes	NIGERIA COUNTRY STUDY REPORT Overview of Nigeria Energy sector and its potential for Clean Captive Power Installations	CAROLINA MERIGHI (UNEP)
30 minutes	Q&A SESSION	Open to all participants
Session will be moderated by DIANA KOLLANYI (FS-UNEP Collaborating Centre)		



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Open call for proposal | Framework document

Introduction

Aim of launching the call for proposals

1

Background

- Lack of reliable and affordable energy
- Grid is unreliable, outages occur often
- High energy costs and lack of infrastructure

2

Objectives

- Strengthen ability to move towards low carbon-emitting development strategies
- Enhance clean captive energy installations for industries
- Raise awareness and disseminate clean modern energy technology

Support for applicants

3

Advisory support: Tools and guidelines for financial and economic viability assessments

4

Financial support: Results-based **grants** to share costs (up to US\$ 300,000) for the following types of projects:



Type I: Captive solar PV plant at a site for C&I clients



Type II: Create a financing vehicle/ instrument dedicated to captive solar PV projects



Type III: Capacity building, trainings/ certification with specific focus on captive solar PV financing

Expected outcomes

5

Implementation of several **pilot projects** that have:

- **Innovative business models**, address the market barriers for captive solar
- **Replicable and scalable concepts** and structures

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Framework document | Activities eligible for grant support

Overview

Type 1 Transaction costs		Type 2 Financing vehicle/instrument		Type 3 Capacity building	
Advisory Services	Financial modelling	Financial structuring	Due diligence costs	Fee for trainers	Training materials
Business plan	System design	Defn. of technical standards	Defn. of investment criteria	Rent or purchase of equipment	Participant's expenses
Permits	Legal advisory	Financial modelling	Business plan	Training Fees	Rent for training premises
PPA structuring	Due diligence costs	Legal costs	Other set-up costs		
Studies and assessments	Other transaction costs				

Framework document | Activities eligible for grant support

Type 1 | Transaction costs – sample costs

Advisory Services



Support fund-raising process



Connect applicants to FIs



Structure and negotiate contracts

Financial modelling



Audit



Analyse profitability, sensitivity, cash flows



Assess financing alternatives

Legal Costs



Support in structuring PPA or lease contracts



Advise in negotiation



Draft & review agreements

PPA structuring



Analyse needs from all parties to reach agreements



Negotiate term-sheets



Support & structure closing of agreement

System design



Analyse structural costs



Design concepts and details



Prepare documentations

Studies and assessments



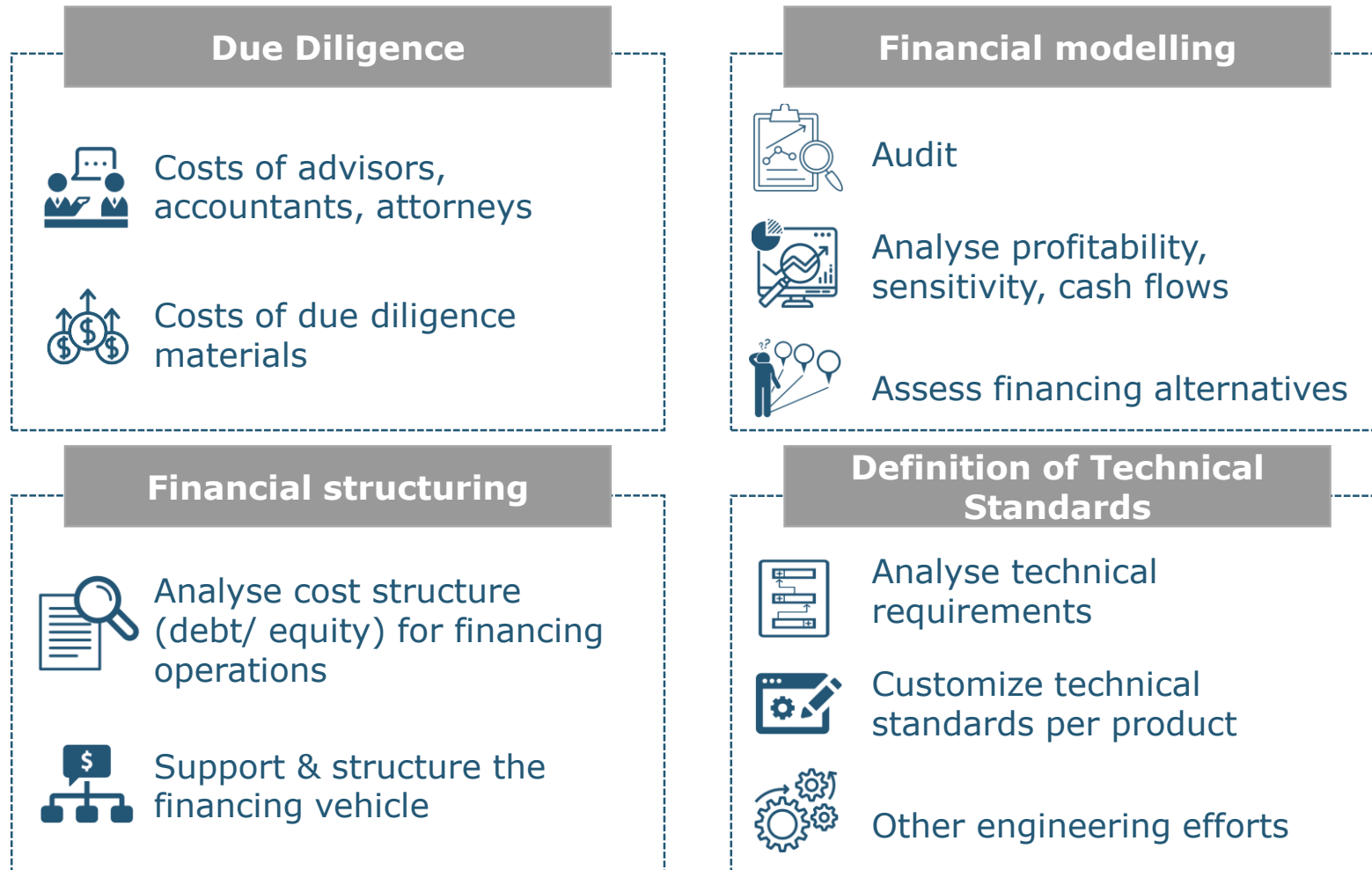
Study & assess project feasibility



Support in reviewing, structuring, etc. of business plan

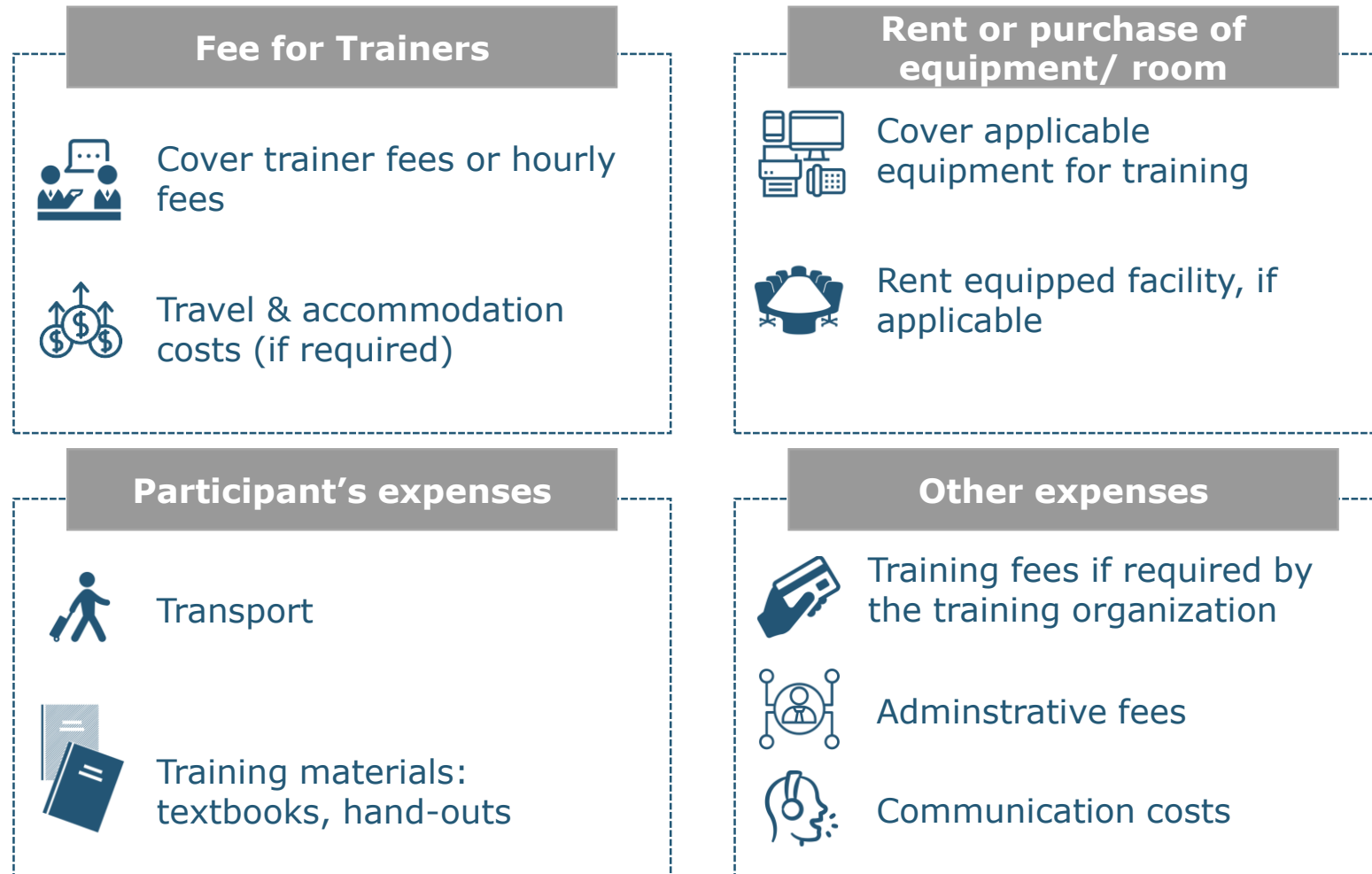
Framework document | Activities eligible for grant support

Type 2 | Financing vehicle/instrument – sample costs



Framework document | Activities eligible for grant support

Type 3 | Capacity building – sample costs



Framework document | Activities eligible for grant support

Conditional grant support

Type 1 | Transaction costs

Conditional funding support:

- Max grant amount that can be availed per project is USD 300K for transaction costs; **AND**
- At least 25% of transaction cost should be own contribution; **AND**
- Total transaction cost to not exceed 25% of equipment and installation costs

Type 2 | Financing vehicle/instrument

Conditional funding support:

- Max grant amount that can be availed per project is USD 300K; **AND**
- At least 25% should be own contribution

Type 3 | Capacity building

Conditional funding support:

- Max grant amount that can be availed per project is USD 300K; **AND**
- At least 25% should be own contribution; **AND**
- Applicant provides detailed plan to increase RE activity in next 5 years

Framework document

Application process

How to apply



Download relevant application form from CCI website i.e. **Type1 or Type 2 or Type 3**



Fill application form in English, attach supporting docs and **submit to** info@captiverenewables-africa.org

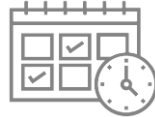


One-step process
CCI team will contact lead applicant if further info. necessary

Who can apply



Consortium, Joint Venture or association
Identify lead contact applicant for comm. & grant contracting



Pilot project to be **implemented within 18 months**. *Projects that are highly time sensitive may refrain from applying*



Agree to knowledge sharing to disburse info. and enhance faster uptake of clean captive renewable energies

When to apply

Applicants may reach out to project team to clarify outstanding questions throughout this period

15 Jul 2021

Launch of Open Call for Proposal through online Webinar

15 Jul 2021

CCI project team to publish Open Call for Proposal documents on website

30 Jul 2021

Last day for applicant to clarify questions with CCI project team

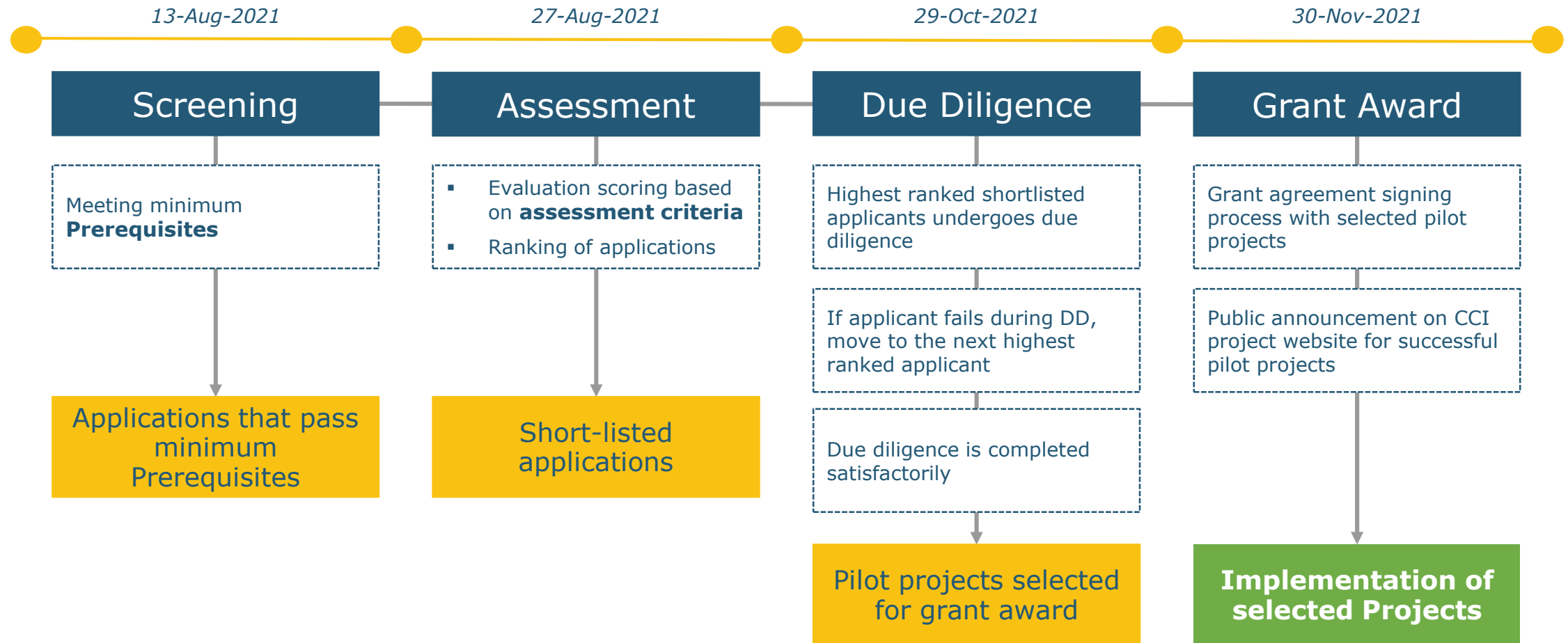
06 Aug 2021

Final application deadline for submission of requested documents



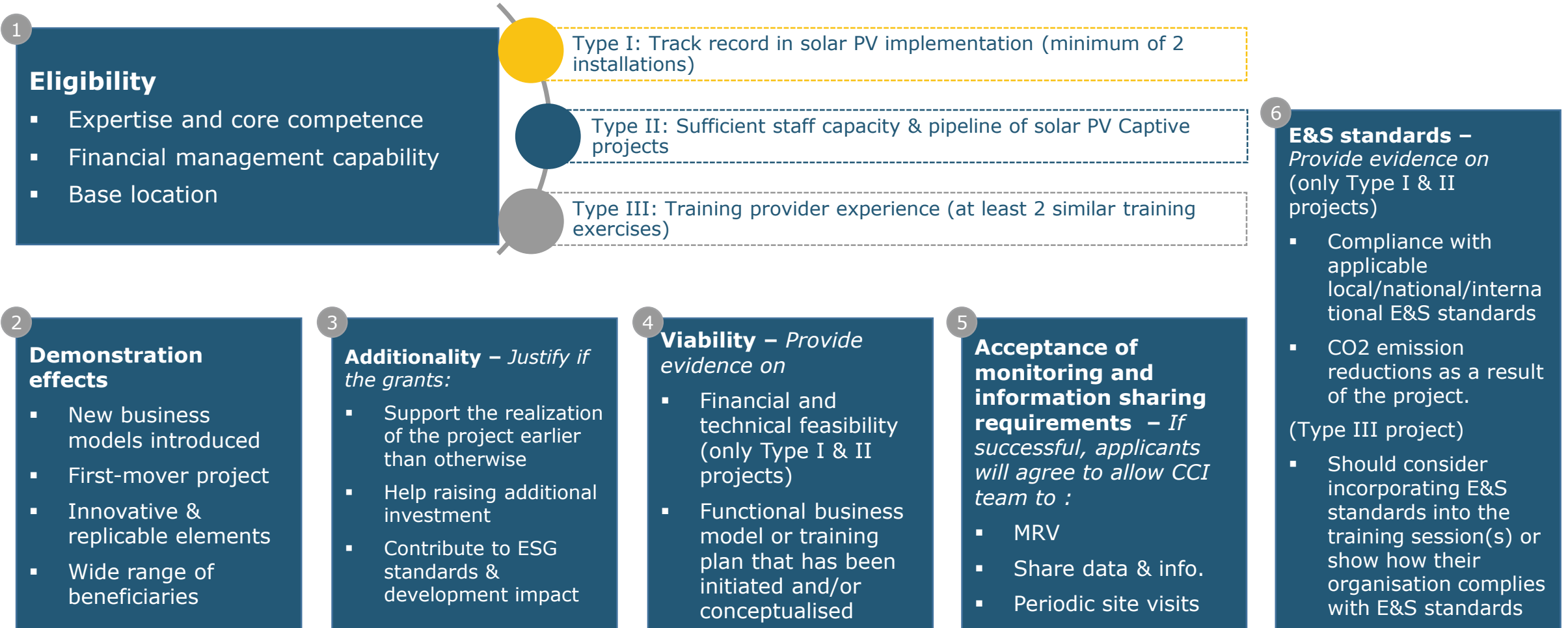
Framework document

Selection and implementation process



Framework document

Criteria for selection | Prerequisites



Framework document

Criteria for selection | Assessment criteria

1

Demonstration effects

Applicants are scored on the basis of their description of project characteristics such as replicability/scalability, innovativeness, learning potential that result from implementing the project.

2

Additionality – Applicants are scored on the basis of their justification for the grant support request through their description of how the support would contribute, for instance, to increasing the project's opportunity of raising additional investment or financing, or lead to improved ESG standards, or lead to local capacity development, or quicker realisation of emissions reduction, etc.

3

Viability – *Provide evidence on*

- Technical feasibility (Type I & II projects)
- Financial feasibility: profitability, metrics, financial commitment, etc. (Type I & II projects)

4

Monitoring Requirements & Information Sharing:

- Consider applicants agree to sharing data and information publicly

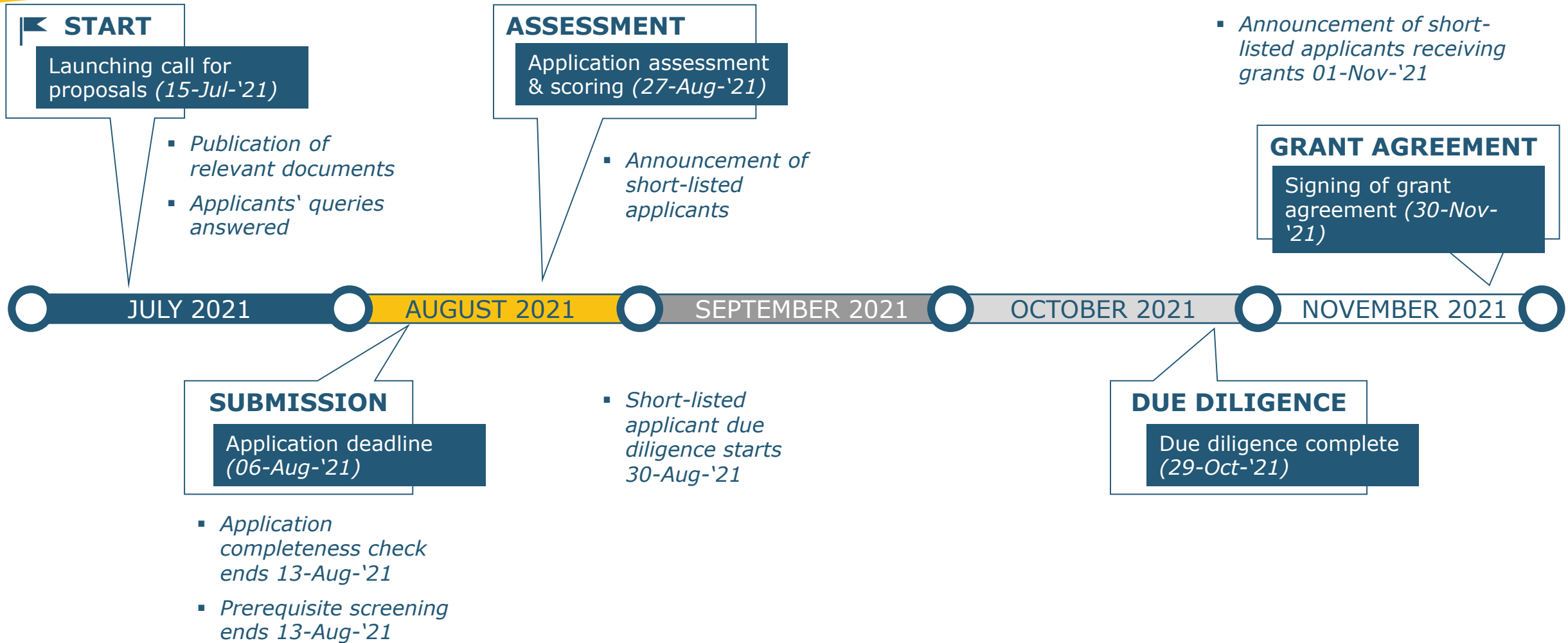
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ESG standards

- CO₂ Emissions reduction efficiency ratio
- Positive environmental and gender impacts
- Align with development priorities

Framework document

Application process | Timeline



Application forms

Type 1 or Type 2 or Type 3

General Guidelines

- Application forms (for all 3 Types of Projects) are to be filled and submitted ELECTRONICALLY
- All questions are mandatory and must be answered as guided in the available spaces provided and based on the project's aspects
- All relevant documents need to be attached as indicated at the end of the application

Main project aspects in Application Form

- **Info on Lead Applicant:** mandatory to clearly provide the contact details of the applicant
- **Info on Project Characteristics** (Type I and II): information on current situation, location, type of C&I user, proposed business model, etc.
- **Info on Capacity Building** (Type III)
- **Technical Viability** (Type I and II)
- **Financial Viability**
- **Info on Participants and Capacity Building** (Type III)
- **Monitoring, Verification, Reporting**
- **E&S and Gender Impact**

Checklist of Attachments

- Certificates (or equivalent)
- Tax compliance, ETR registration, permits, license, etc.
- Agreements between the company and project partners (or training provider)
- Company references and/or key expert CVs (where applicable)
- Detailed cost breakdown
- Detailed implementation plan
- Audited financial statements (going back 3-5 years)
- CO₂ emissions reduction calculation with assumptions
- Technical assessment design, data sheet, etc.
- Others

Webinar | Agenda

Session 1

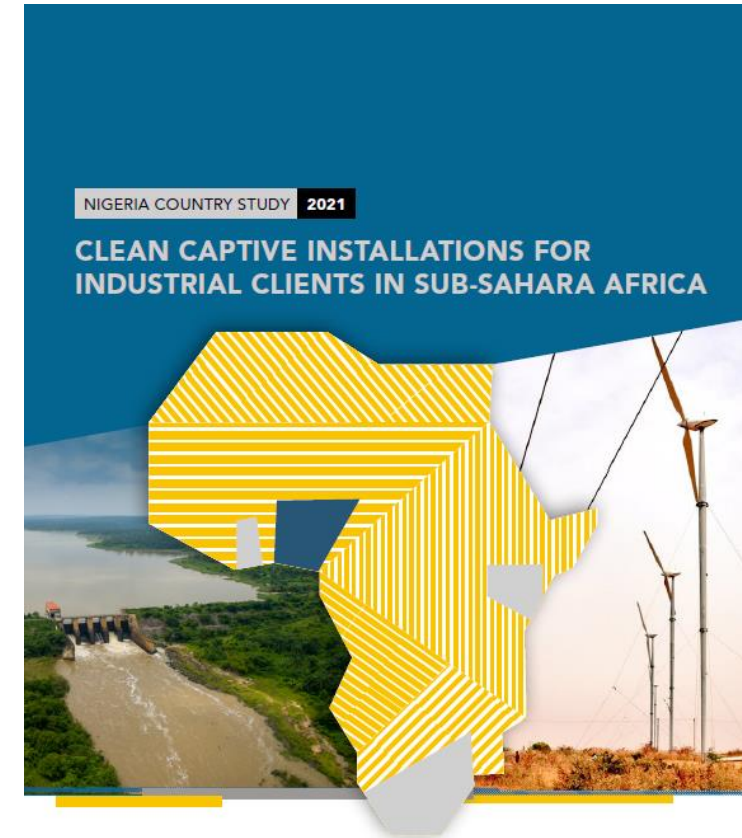
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Country study | Nigeria

Introduction

The Nigeria Country report presents the state of the clean captive installations market in Ghana, with a focus on the commercial and industrial market and solar photovoltaic (PV) technology.



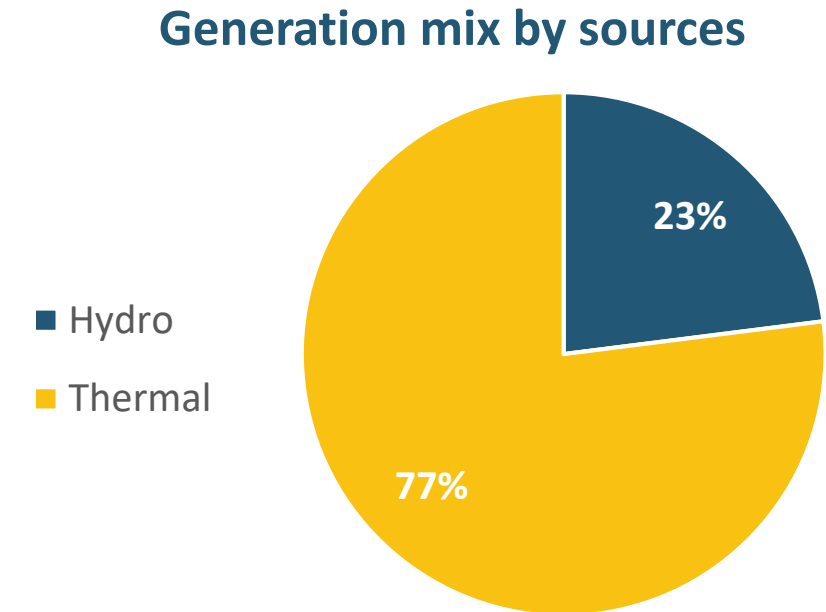
Download from website:
captive renewables-africa.org/publications/

Country study | Nigeria

Energy profile

Nigeria generates electricity mostly from thermal sources and hydro sources.

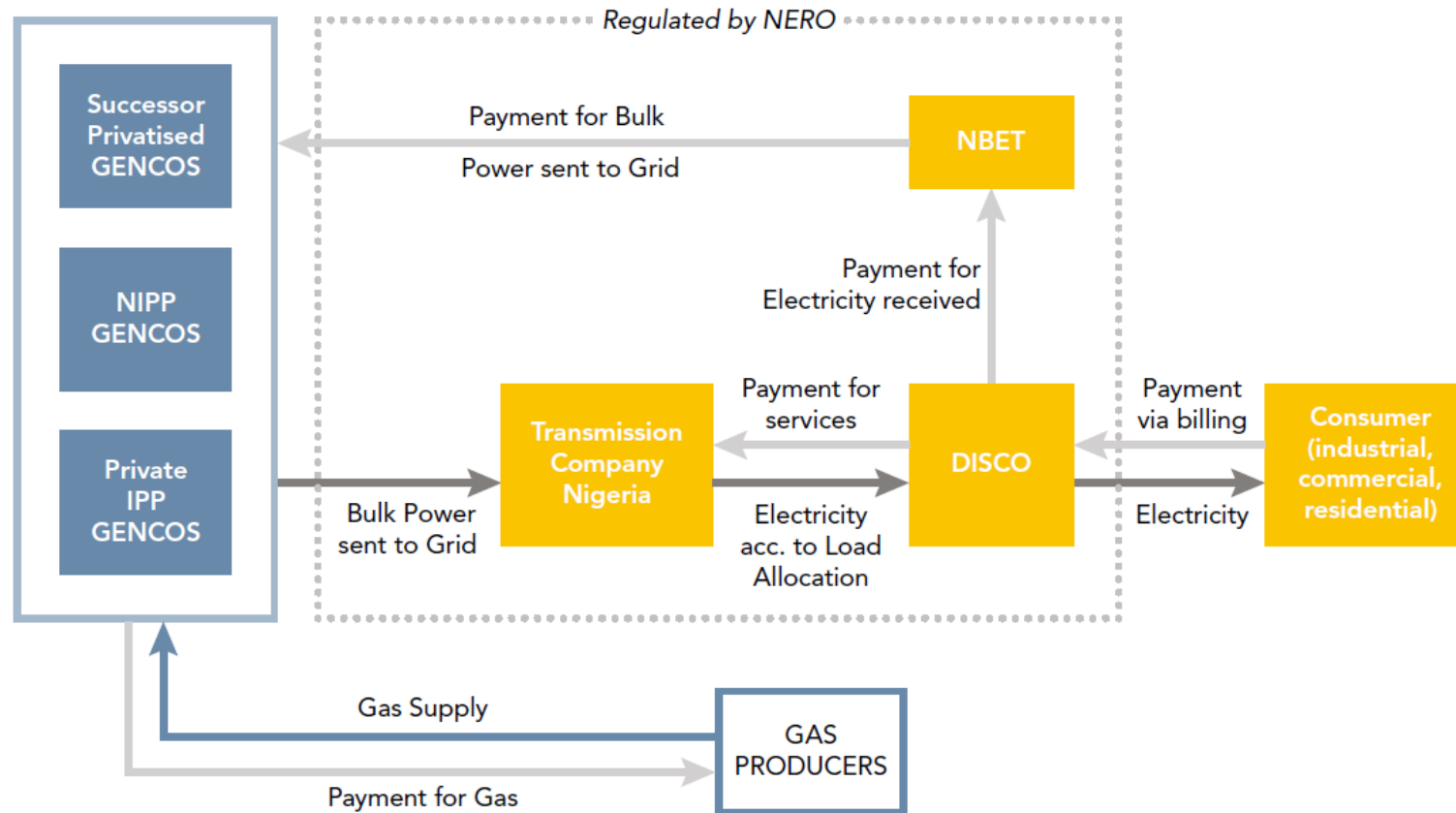
Energy indicator	Result
Access to electricity	56.5%
Electrification – urban areas	81.7%
Electrification – rural areas	31.0%
Average cost of generation	US\$ NA per kWh
Total electricity generation	36 277 GWh
Total electricity consumption	26 315 GWh
Sectoral electricity consumption	NA GWh
Electricity total installed capacity	12 522 MW
Peak electricity demand	NA MW



Country study | Nigeria

Power sector structure

Structure of the power sector post-privatization in Nigeria

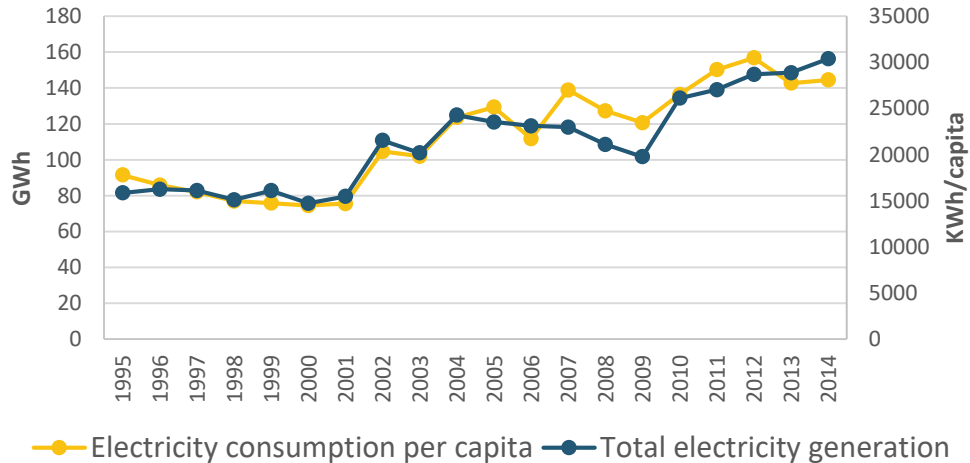


Note: GENCOS = generation companies; DISCO = distribution company; IPP = independent power producers.

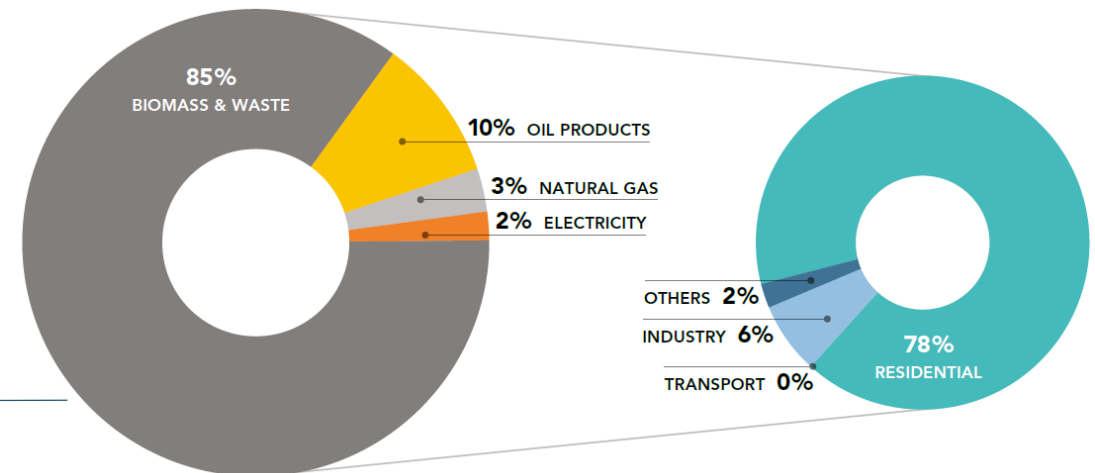
Country study | Nigeria

Electricity demand

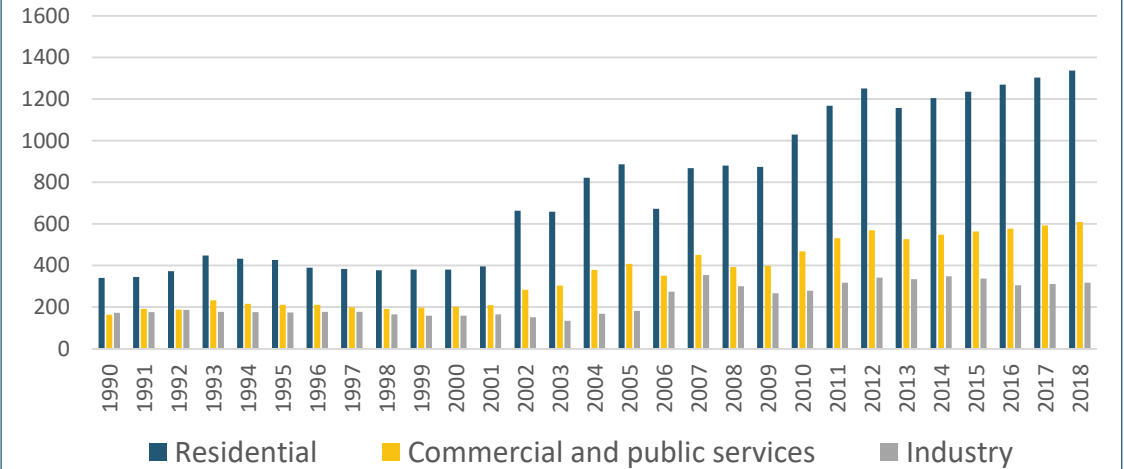
Electricity consumption per capita and total generation (1995-2014)



Total on-grid energy consumption in Nigeria by different economic sectors (2013, ktoe)



Electricity final consumption by sector, Nigeria 1990-2018 (ktoe)



Country study | Nigeria

Electricity generation options

Grid-connected generation

FEATURES	REGULATIONS
<ul style="list-style-type: none">- Generation plant is connected to the grid- Power is evacuated to the national grid- Suitable for large-scale projects- Requires a power purchase agreement with the bulk trader (NBET)- Subject to capacity needs and system constraints- Requires a licence from the NERC	<ul style="list-style-type: none">- NERC Application for License Regulation, 2010- NERC Generation Procurement Regulations, 2012- Eligible Customers Regulations, 2017

Embedded generation

FEATURES	REGULATIONS
<ul style="list-style-type: none">- Plant directly connected to distribution network- >1 MW- Power sold directly to distribution companies through bilateral contract- Licence required from the NERC- Good for clusters of customers (e.g., industrial estates)	<ul style="list-style-type: none">- NERC Regulation on Embedded Generation, 2012

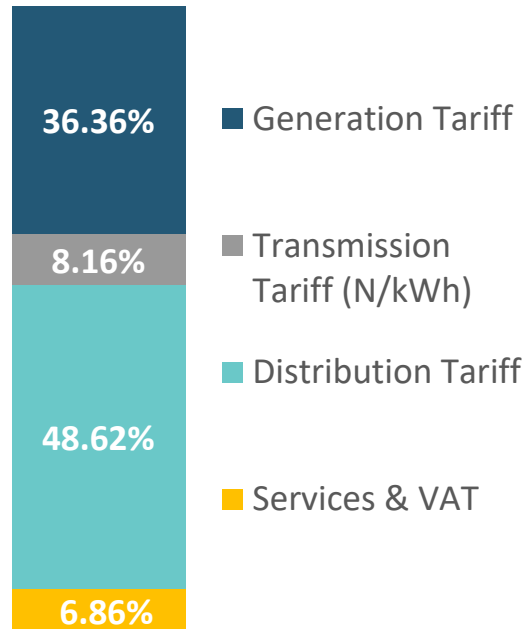
Captive generation

FEATURES	REGULATIONS
<ul style="list-style-type: none">- Off-grid- Power consumed by generating entity- >1 MW- No distribution infrastructure required- Permit required from the NERC	<ul style="list-style-type: none">- NERC Captive Power Generation Regulation

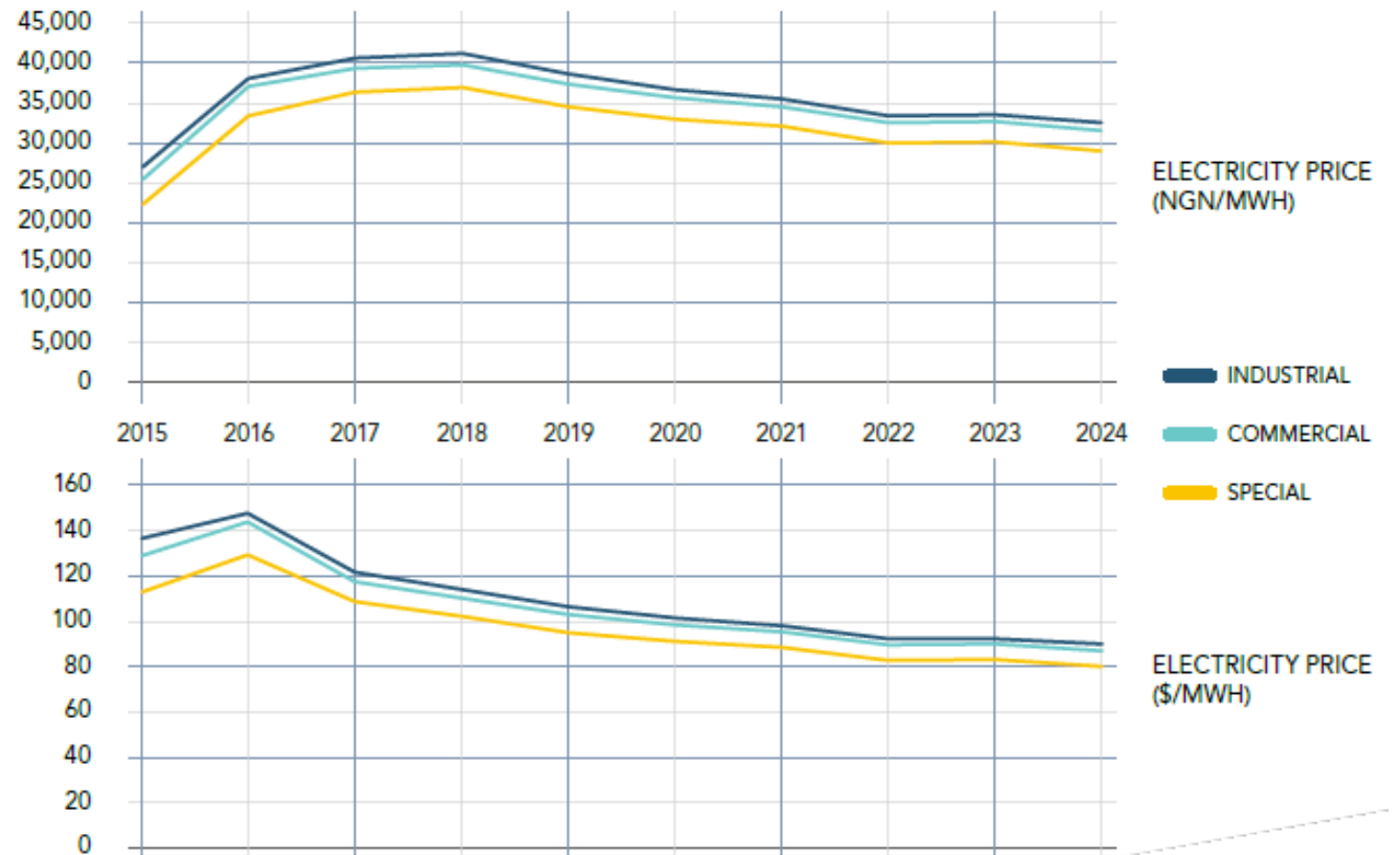
Country study | Nigeria

Electricity sales

Electricity retail price structure (%)



Nigeria retail power prices for commercial, industrial and special categories



Country study | Nigeria

Energy policy and regulatory framework

Key power market actors

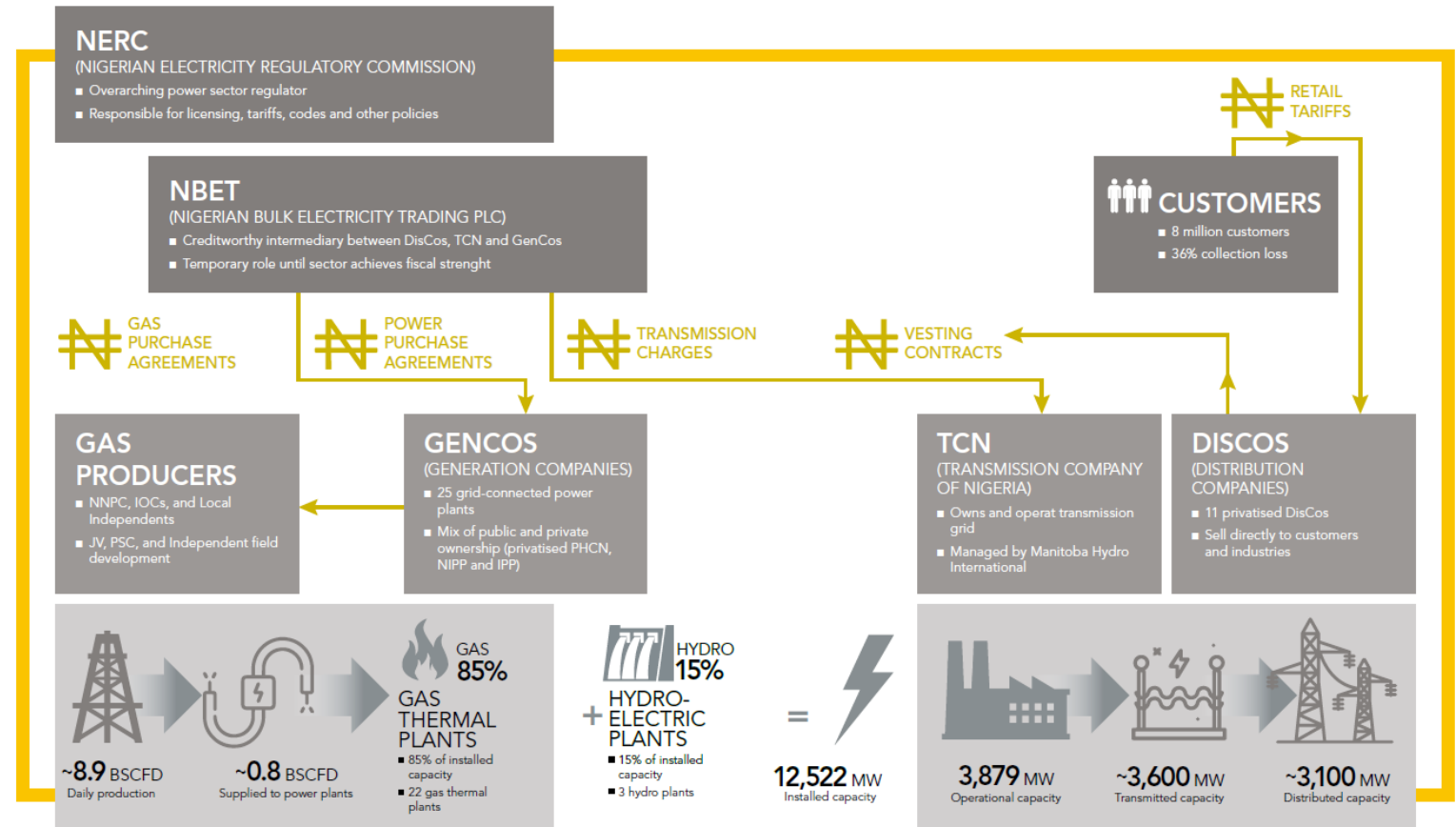
Targets in terms of capacity per technology

All renewables (incl. off-grid PV):

- ✓ 3,325 MW by 2020
- ✓ 17,200 MW by 2030

All renewables (on-grid only):

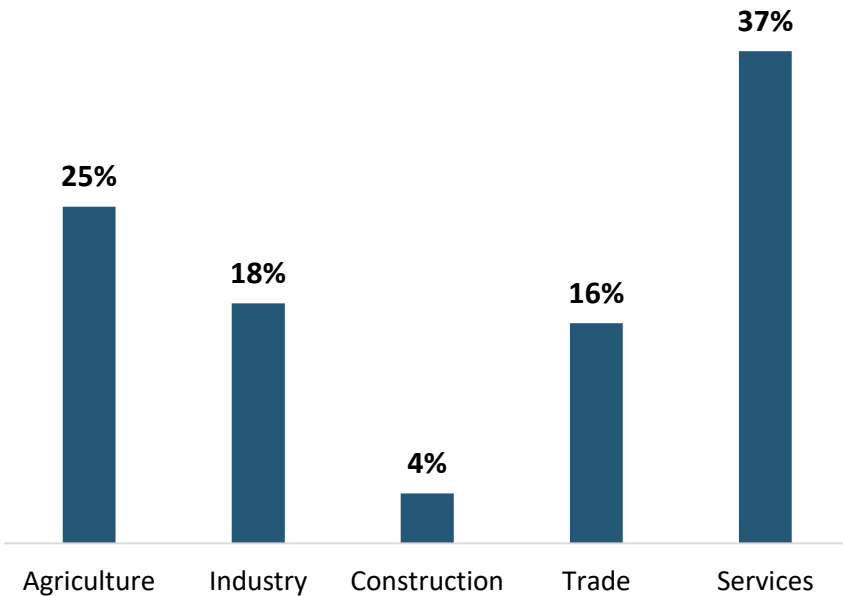
- ✓ 2,785 MW by 2020
- ✓ 9,100 MW by 2030



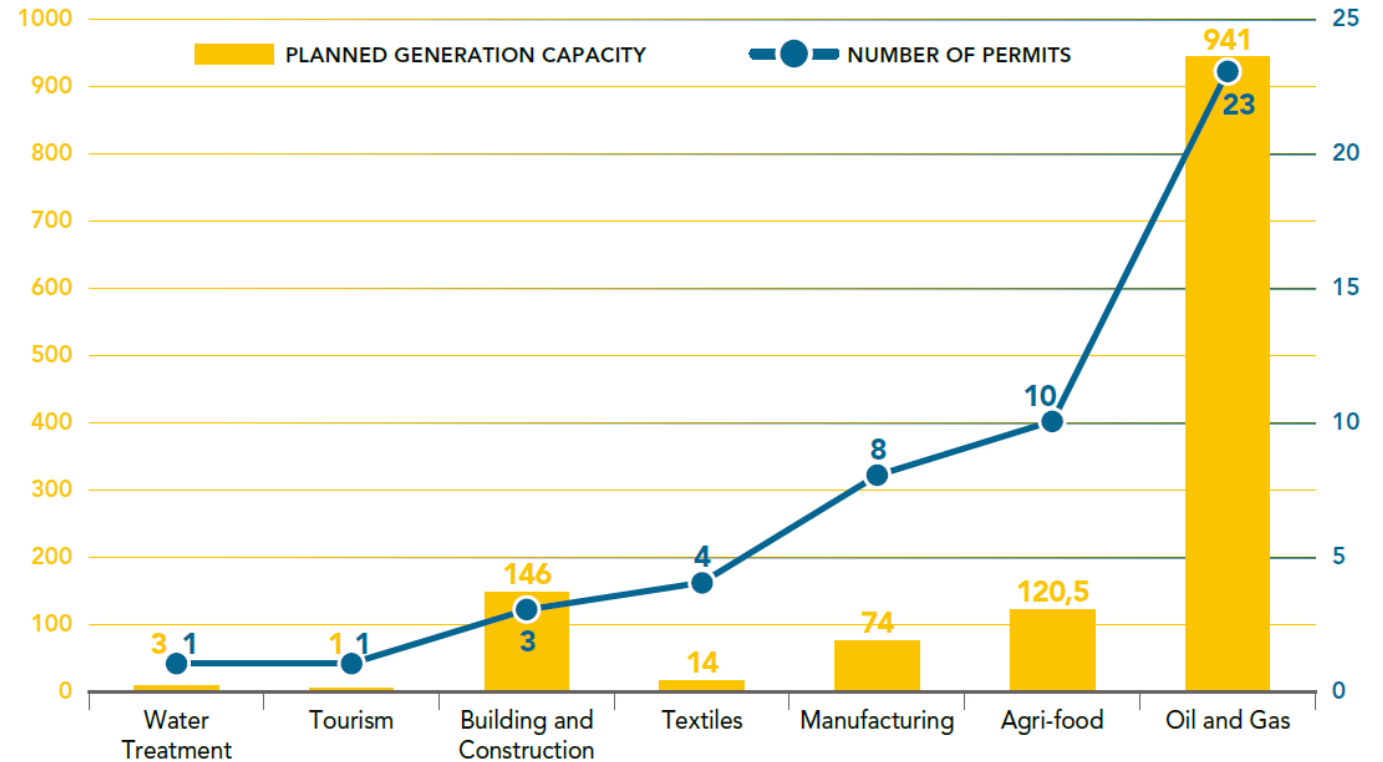
Country study | Nigeria

Nigeria market potential for captive power

Contribution to real gross domestic product by sector, 2018



Commercial and industrial solar installed capacity (MW) in Ghana, 2013-2018



Country study | Nigeria

Financing clean captive power

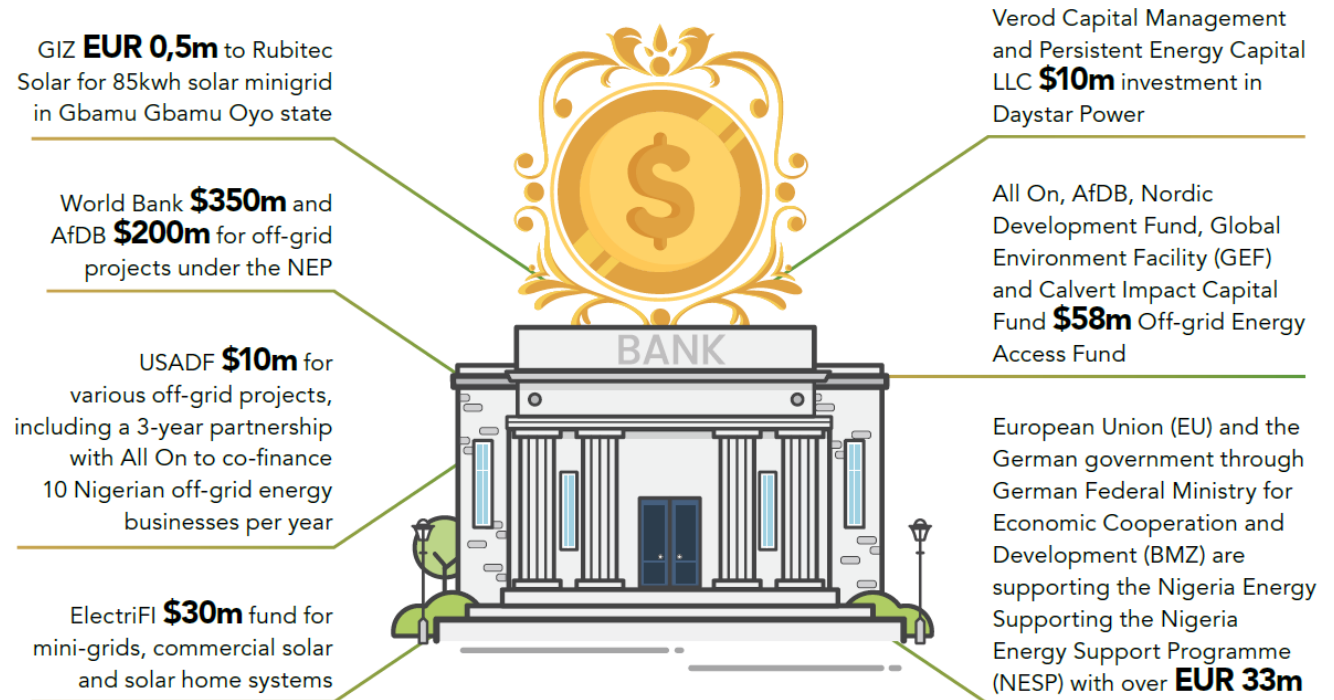
Nigeria's key financial sector players working towards being at the forefront of the renewable energy landscape:

Access Bank	FCMB
Bank of Industry	Ecobank Nigeria
Development Bank of Nigeria	Fidelity Bank
Sterling Bank	UBA

Financing models for captive power deployed in Nigeria:

Outright purchase / asset finance
Rent-to-own (financing lease)
Operating Lease
Power Purchase Agreement (PPA)

- ✓ The Nigerian off-grid market has attracted significant support over the last three years in the form of grants, low-interest loans and equity investments.
- ✓ According to the Nigerian Energy Report, this sector is the largest source of foreign direct investment in Nigeria.



- Nigeria has severe **electricity supply shortages, fragile electricity transmission and distribution systems.** → It offers a good potential for **clean captive installations.**
- The **privatization and diversification** in Nigeria's electricity sector has been empowering electricity consumers, while the Government of Nigeria is cooperating with industry players to update energy policies and regulations to pave the way for **increasing the share of renewables in the energy mix.**
- The **manufacturing sector** is the main driving force behind the Nigerian economy. → However, **electricity shortage** caused by poor fuel supply and lack of infrastructure is the main factor limiting the manufacturing sector in Nigeria.
- Financial institutions have been **providing lending facilities to the commercial and industrial industry**, which will allow other banks to act as "fast followers". → More investment is in need.

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SESSION 2 – TOOLS

Pre-recorded session available on website

Topics covered:

- Presenting **different tools** developed for captive solar PV solutions in the C&I sector

Thank you for your patience!



UN Environment (UNEP)



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