

The Presidential Power Initiative



Message From the CEO



Welcome,

On behalf of FGN Power Company, I am pleased to announce the kick-off of Phase I of the Presidential Power Initiative (PPI). Born out of meetings between President Buhari and Chancellor Angela Merkel of Germany, the PPI aims to modernize and upgrade power transmission and distribution infrastructure across Nigeria by 2025. By investing billions of dollars into grid infrastructure, data systems, and skilled operators, the PPI will improve power delivery and spur economic growth. During Phase I, the PPI will focus on “quick-win” measures to increase end-to-end operational capacity to 7 GW. By the end of the PPI, the grid will reach 25 GW capacity, therefore quadrupling today’s capacity.

Given the existing challenge of capacity misalignment of the electricity grid, the PPI is undoubtedly an ambitious and challenging undertaking. As such, it needs careful shepherding and government-wide coordination. FGN Power Company was founded to fill that role to safeguard the success of the PPI. By screening and selecting vendors, managing projects, and coordinating stakeholders, we will make sure that PPI projects finish with efficiency, and optimize available capacity. Our success is the PPI’s success and the PPI’s success is Nigeria’s success.

To accomplish these ambitious goals, FGN Power Company will operate at the cutting edge of management efficiency and transparency. We are committed to serving as a model for excellence public-private partnerships. We will endeavor to communicate progress to the government and the public, balance cost and quality in all of decisions, and use internationally leading technological standards. As a first step, we have brought in outside experts to help build a robust corporate governance structure and stakeholder engagement strategy.

We are excited to continue to provide updates on our progress and accomplish great things for the Nigerian people.

Kenny Anuwe
Managing Director/CEO
FGN Power Company

Background



- The Presidential Power Initiative (PPI) was conceived during a meeting between the President of the Federal Republic of Nigeria, Muhammadu Buhari and German Chancellor, Angela Merkel on August 31, 2018.
- The PPI was conceived as a three-phase initiative to rehabilitate and expand the electricity grid through improved generation, transmission, and distribution
- Federal Government of Nigeria established a special purpose vehicle, the FGN Power Company, to own and execute the PPI
- Technical implementation of the PPI will be lead by Siemens, with the support of the German Government along with a host of EPCs, financiers, and supporting regulators and agencies

PHASES OF THE PPI

Phase I

Focus on “quick-win” measures to increase end-to-end operational capacity **to 7 GW**

Phase II

Expand the capacity of the transmission and distribution systems to enable evacuation of up **to 11 GW** of electricity to end consumers

Phase III

Increase total operational generation and grid capacity **to 25 GW** through further expansion of the generation, transmission, and distribution systems

PPI Phase 1 at a Glance



Distribution Project Statistics

10,224 KM of Distribution Lines

579 Distribution Line Projects

2,894 Distribution Transformers

10,224 KM of Distribution Lines

42 Upgraded Distribution Substations

Transmission Project Statistics

56 KM of Transmission Line Projects

5 Transmission Line Projects

13 Upgraded Transmission Substations

8 Containerized Substations

10 Mobile Substations

10 Mobile Transformers

Other Statistics

Supply of Loose Electrical Equipment

Delivery of 2000MW Additional Power

7.3 Million New Connections

37 Million People

11,000 Jobs

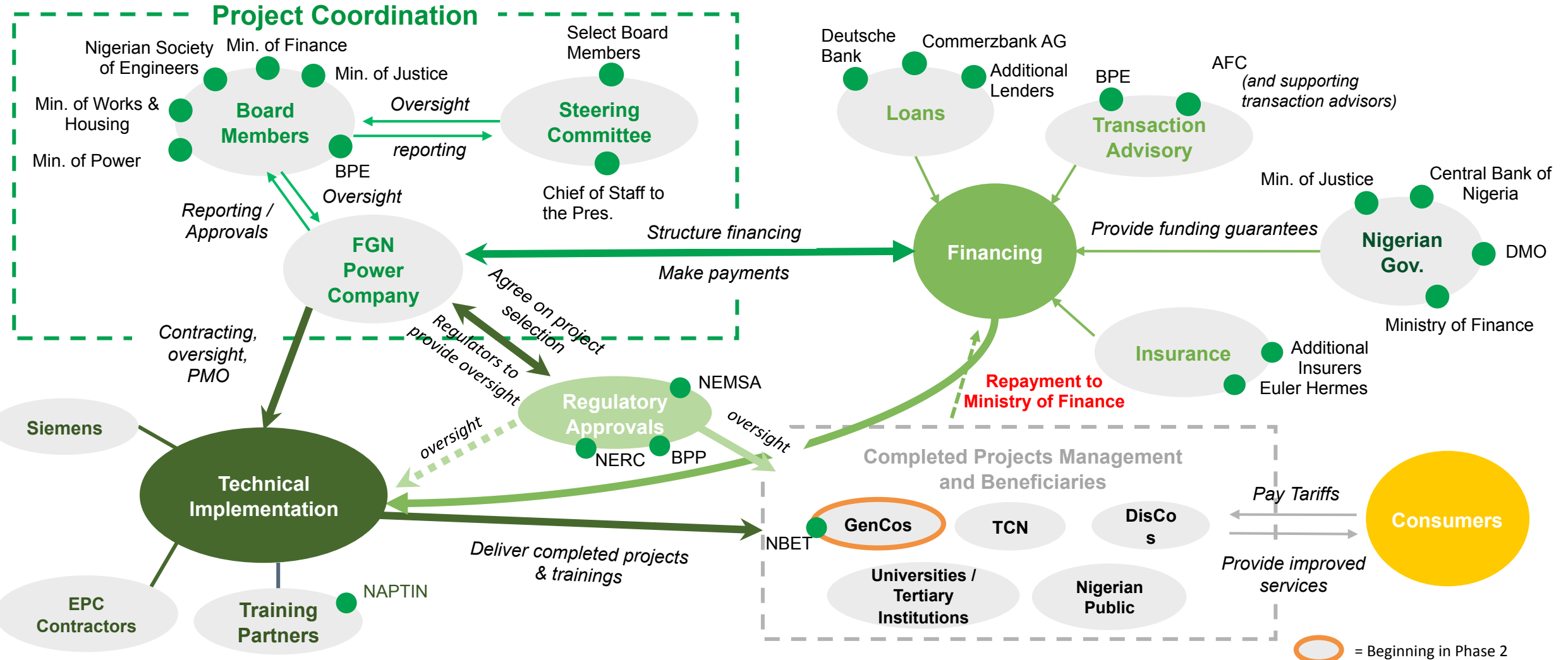
5,000 Trained Engineers

Key Stakeholders in PPI Implementation



PPI Ecosystem

Principles of Collaboration



FGN Power Company



The PPI Mandate and Vision

PPI MANDATE

To provide reliable and constant power supply (25 GW of power generation capacity) in Nigeria, by 2025.

PPI VISION

Enable the NESI to achieve commercial autonomy by facilitating investments in critical infrastructure to optimise service delivery.

WHAT THIS MEANS FOR FGN POWER COMPANY

Given the ambition of the PPI, FGN Power Company must quickly and effectively coordinate key stakeholders to deliver the pipeline of projects .

The Mission for FGN Power Company

FGN Power Company's mission is to:

- **Secure Financing**
- **Effectively Coordinate Stakeholders and**
- **Enter into efficient commercial and contractual arrangements**

to deliver the pipeline of PPI projects, that will transform Nigeria's power sector, and improve the quality of life for all Nigerians.



Our Goal

FGN Power Company will strive to accomplish quick wins, medium term and long term achievements to reach 25GW capacity by 2025

Our Values

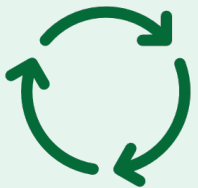
FGN Power Company is committed to living its core values in everything we do.



Transparency



Integrity



Sustainability



Efficiency





Principles for PPI Coordination

FGN Power Company will use several principles to guide the implementation of the PPI over the coming years

- **Transparency:** Transparent prioritization of projects based on (i) technical feasibility and (ii) a holistic view of value chain improvement through governance and partnerships. The PPI's success is contingent of a wide variety of stakeholders collaborating to fulfill interlocking responsibilities. FGN Power Company must serve as the nucleus, coordinating all stakeholders to ensure successful implementation of the PPI.
- **Sustainability:** High quality, long-lasting solutions for distribution and transmission networks implemented by knowledgeable experts within the project management team
- **Professionalism:** high standards and industry codes for the NESI- following due diligence
- **Integrity:** Diligent oversight and documentation of funds disbursement to avoid misuse, and ensure that projects funds are used for the intended purpose.
- **Efficiency:** Making decisions to ensure FGN Power Company manages and coordinates key stakeholders for cohesion and seamless implementation of the projects.

Company Leadership: Board of Directors

The Board of Directors of FGN Power Company will play a critical leadership role in the PPI and ensure FGN Power Company's core values are reflected in everything we do.



Zainab Ahmed

Minister of Finance & Chairman of the Board FGN Power Company



Abubakar D. Aliyu

Minister of Power



Babatunde Fashola

Minister of Works & Housing



Abubakar Malami

Attorney General and Minister of Justice



Alex Okoh

Director of Bureau of Public Enterprises (BPE)



Tasiu Sa'ad Gidari-Wudil, FNSE

President of Nigerian Society of Engineers (NSE)

The Board will report to the Presidency of Nigeria on the Government's interests in the PPI

Company Leadership: MD/CEO

Managing Director Kenny Anuwe will lead FGN Power Company as it executes its mandate in supporting the

Kenny Anuwe is the Managing Director/CEO of the FGN Power Company. President Muhammadu Buhari appointed him with the responsibility of leading and implementing the Presidential Power Initiative in collaboration with Siemens. Prior to joining the PPI, Kenny served as Deputy and Head, Project Management Unit, Nigeria Electrification Project (NEP-AFDB) under the Rural Electrification Agency. NEP-AFDB is a \$550M facility funded by the African Development Bank and World Bank to accelerate off-grid electrification across Nigeria with the goal to deploy over 250 Solar Mini Grids, successfully implement the Energizing Education Programme (EEP) in Federal Universities and Teaching Hospitals, and deploy over 24,500 productive use appliances in unserved and underserved communities across Nigeria.

Before this, Kenny served as the Project Lead of the Power Sector Recovery Programme (PRSP), where he specialized in project implementation and team monitoring. Kenny also led the DFID engagement work on tariff reviews and market development for over 5 years at NERC. Prior to working in Nigeria, Kenny spent 5 years at IBM as a programme manager on a major infrastructure change project. He also worked with Lloyds Banking Group in the business transformation for global payments. Kenny holds a BSc. in Economics from Ambrose Ali University (AAU), Edo State, Nigeria and an MBA from the University of Wales, Cardiff.



Project Information



Overview of PPI Workstreams

Transmission Projects

- Brownfield: Upgradation of transmission substations and transformers.
- Greenfield: Building new substations & installing transformers
- Transmission lines

Distribution Projects

- Brownfield: Upgradation of distribution substations and replacement of transformers
- Greenfield: Building new substations & installing new transformers
- Distribution lines
- Loose equipment like OVCBs, AR, Relays, DTs etc.

Network Simulations (PTI)

- Deployment of power system simulation software to all utilities
- Data collection for all utilities
- Training of utilities in the areas of network planning and simulation

Meter Data Management System (MDMS)

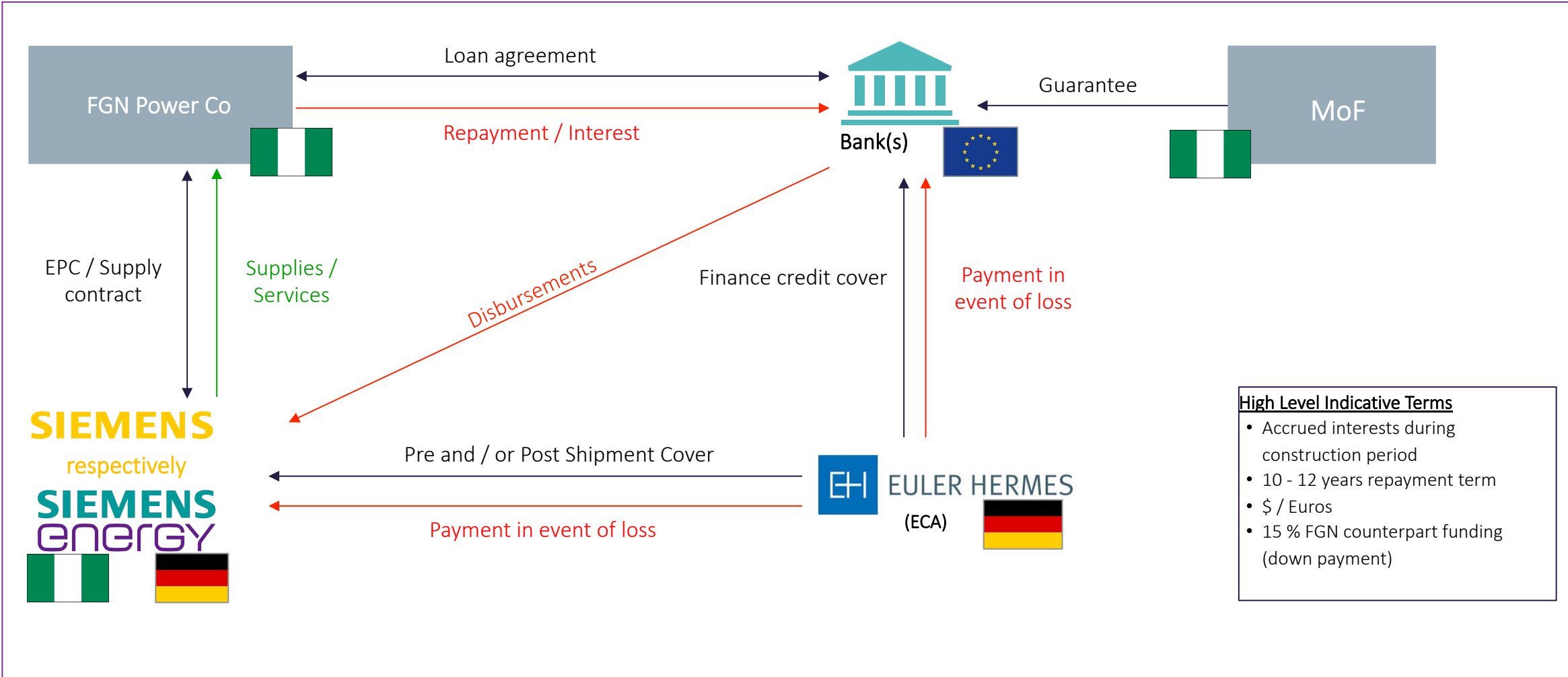
- Provision of a Central Meter Data Management System that will integrate the metering systems for all utilities
- Eliminate Revenue leakages
- Ensures transparency and accountability

Training for Local Engineers

- Train Local Engineers in partnership with NAPTIN
- Train Engineering Students in our Universities
- Train Engineers from Utilities

PPI Financing Structure

Long-term bank loans covered by ECA



Presidential Power Initiative Phase 1

PPI Financing Structure



1. The financing for the offshore will be sourced from the German Banks at a concessionary rate, which will be guaranteed by the Euler Hermes (German Export Credit Agency).
2. The loan from German banks will fund 85% of the offshore project cost, while the counterpart funding of 15% is to be provided by the Ministry of Finance through the FGN Power Company:
 - Turnkey Transmission financing (85%) - Applicable for manufactured equipment in Germany, and may extend to onshore transmission projects for a very limited extend.
 - Distribution Offshore – 85% of the distribution offshore and onshore cost to be sourced from other financiers, which may include EPCs and other DFIs.
 - Distribution Onshore – The 15% counterpart funding will go towards onshore distribution activities.
3. The Federal Government has committed to making huge initial investment under the PPI as a convertible loan on behalf of the Distribution Companies (DisCos); given their inability to secure requisite investments for the upgrade and modernization of their networks.
4. The FGN Power Company will subsequently on-lend the project cost to the DisCos and Transmission Company of Nigeria (TCN), with the repayment coming from the beneficiaries' revenue from the market.

Presidential Power Initiative Phase 1

PPI Financing Structure



1. The total project cost for PPI Phase 1 is estimated at €2.3Billion. in which about 60% of the funds will come from the consortium of German banks to cover the offshore project cost (the financing for the offshore project will be sourced from German Banks at a concessionary rate, which will be covered up to 90% to 95% by the Euler Hermes Aktiengesellschaft (German Export Credit Agency))
2. While the remaining 40% of funding for the transmission and distribution onshore works will be sourced from other financiers. FGN Power Company has already commenced engagement with the development finance institutions for mutual collaborations on the required onshore funding. Some the DFIs includes AFDB, Afrexim Bank, AFD and well as EIB.
3. FGN Power Company has already received the sum of \$100 million out of \$200 million from the Ministry of Finance as approved by His Excellency, the President, being the take-up grant for the PPI implementation. The balance of \$100million alongside additional funding required for the 15% counterpart funding estimated to be made available to FGN Power Company in line with the July 2020 Federal Executive Council's approval.

PPI Contractual Structure

1



Pre-engineering Works Contract

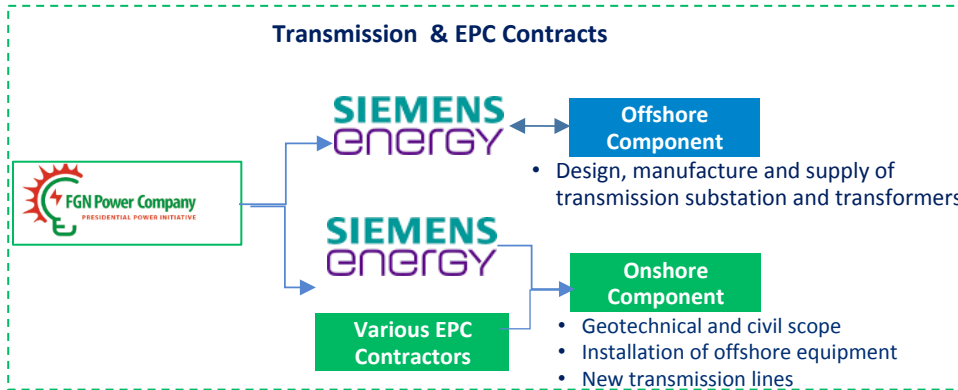


Pre-engineering contract covers

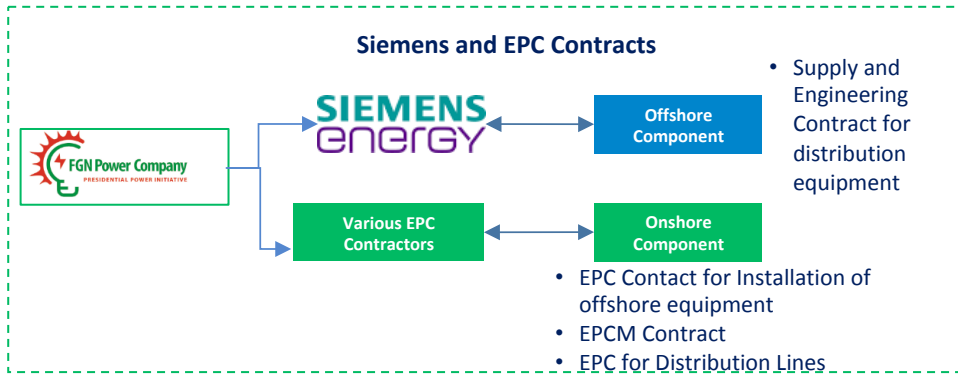
- Engineering Design
- Finalizing project specifications
- Commissioning works for transmission & distribution systems
- Network development studies
- Power simulation studies
- Training support services

2

(i) Transmission Network Infrastructure (TNI)



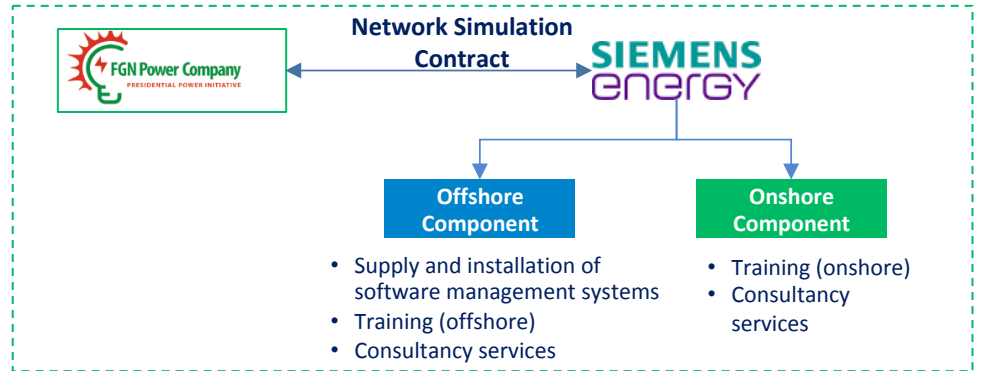
(ii) Distribution Systems Infrastructure



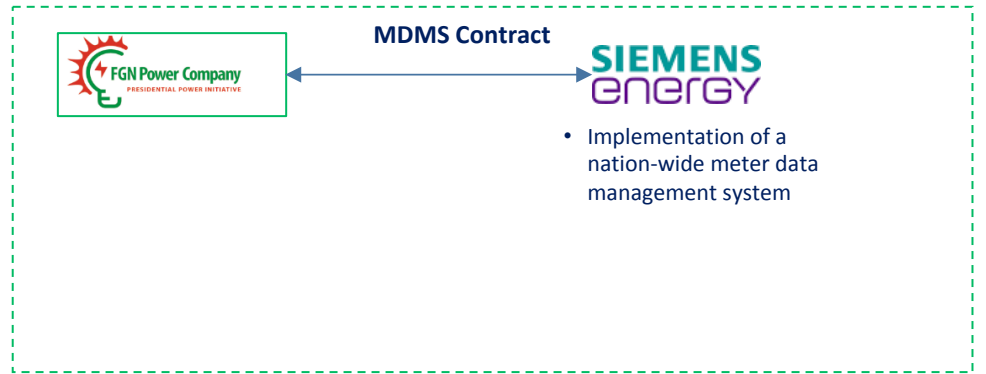
Phase 1 activities scheduled to proceed post conclusion of financing phase

Implementation to be carried out following minimum level of meter adoption in Nigeria

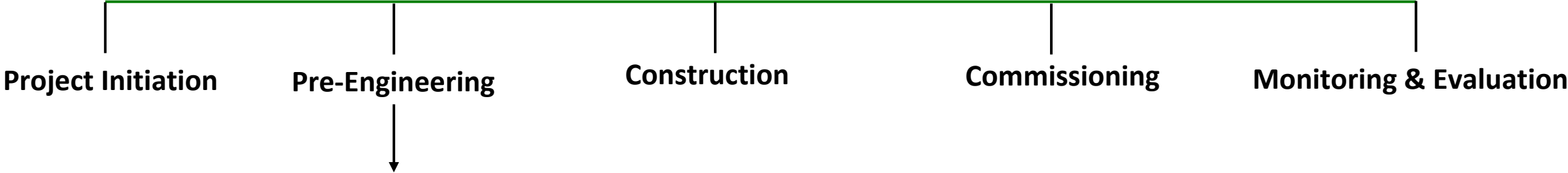
(iii) Network Service and Power Simulations



(iv) Meter Data Management System



PPI Phase 1: Pre-Engineering



What is the pre-engineering phase?

The Pre Engineering phase is **about planning, estimates, data gathering and preparation for construction**. The milestone for this phase is the definition of the project planning baseline.

Why do we carry out Pre-Engineering?

In the management of Engineering Projects, Pre-Engineering is conducted for the following reasons:

- Define Scope of Work
- Validate Assumptions
- Secure Financing / Ensure Project Commercials are Validated
- Regulatory Compliance
- Necessary Environmental, Technical & Commercial Assessments to ensure project sustainability
- Limit delays in the execution of EPC contract
- Mitigate risks prior to the commencement of detailed engineering design

Why is this relevant to the PPI?

- Phase 1 of PPI was planned to commence December 2019 for 2 years.
- Project has suffered unavoidable delays due to pandemic which started same time and has effectively persisted. This has consequences for project delivery timescales, regulatory asset base, tariffs, PIPs, economy, financing by ECA etc.
- Mobilization of EPCs will be delayed by no less than 2 years without some form of preliminary engineering works to cover, among other things:
 - Functional Specifications
 - Design Basis
 - BoQ to be handed over to EPC Contractors
 - Route Survey & Civil works
 - Scope definition
 - Site Preliminary works
 - Requirements for Installation, Erection, Testing & Commissioning
 - Design Calculations for the selection of conductors, equipment, accessories, insulators/ support structure etc.
 - Engineering drawings – SLDs, PC&M,
 - Technical Specifications & Preliminary Studies

Overview of Phase 1 Projects

Transmission Projects	Distribution Systems	National Metering Systems	Power Simulation	Training
<ul style="list-style-type: none"> ▪ Scope validation & Alignment of Transmission projects to meet the objectives of PPI in Phase 1 has led to revised projects submitted to Siemens: <ul style="list-style-type: none"> ▪ Phase 1A: 13 x S/S; 10 x Mobile S/S; 10 x Mobile Transformers ▪ Phase 1B: 8 x Substations; 5 x 330 & 132kV Transmission Lines ▪ Siemens to provide revised offer. Documents provided to enhance determination of cost estimates include – SLD, Layouts, accurate GPS coordinates, TCN Specifications, Intended scope of work, S/S details etc. ▪ Approval from NERC outstanding ▪ HV Lines are explicitly excluded from Siemens Energy scope 	<ul style="list-style-type: none"> ▪ Upgrade of Existing Substations, construction of New Substations and supply of Equipment ▪ Power & Distribution Transformers ▪ Primary Switchgear, OVCB, Lines Equipment, Isolator, CSS, RMU, CRP, Surge Arrester, Batteries & Charger ▪ Safety and Testing equipment (11 units) ▪ Trailer mounted Substation (11 units) ▪ Control & Protection ▪ Protection Devices: 1,904 units ▪ Auxiliary equipment: 431 units ▪ Software licenses: 33 units ▪ Notes: ▪ Alignment meeting in regard of the new consolidated list required ▪ ** Distribution lines scope not included in Siemens AG scope ▪ *** new substations are subject to validation from Network study • Kick-off meeting held with Siemens on Distribution Work Package • Equipment and Material specifications/standards concluded with NEMSA & DisCos 	<ul style="list-style-type: none"> ▪ Software: The Siemens EnergyIP Platform sized for ~6 million Smart Meters (Nigerian Metering Gap), including Siemens UDIS Head-End System (HES), Meter Data Management (MDM), Prepay (PPES), an STS vending platform provided and Siemens' Asset Management, Field Deployment and Provisioning tool (AMC). ▪ Integration with 3rd-party software applications; Integration with DisCos 3rd-party software applications such as CMS and certain AMI infrastructure ▪ Integration with TCN AMR/HES ▪ Central integration with NIBSS ▪ Hardware: Computing Environment required to support the Software. ▪ Services: 3 to 5 years of Managed Services after UAT, on a Tier 2/3 level, to 11 DisCos and TCN ▪ Offer is currently being negotiated & a revised offer expected from Siemens AG 	<ul style="list-style-type: none"> ▪ Network systems development studies for 25 GW and 11 GW scenarios ▪ 3 PSS E Software licenses for TCN ▪ 2 PSS SINICAL Licenses for TCN ▪ 2 PSS E Licenses for FGN Power Co. and NERC, each ▪ 2 PSS SINICAL for FGN Power Co. and NERC, each ▪ 22 PSS SINICAL Licenses for DisCos ▪ Software Maintenance & Support for TCN, DisCos & Authorities for 4 years ▪ Training and Technical Services Support for TCN DisCos & Authorities for 4 years ▪ Educational PSS E & PSS SINICAL licenses for NAPTIN. ▪ Kick-off Meeting held with Siemens' PTI team (PSS4N, Training, & Network Development Studies) 	<ul style="list-style-type: none"> ▪ Equipment and product training for TCN and DisCo employees on all equipment and products installed, covering: <ul style="list-style-type: none"> ▪ Distribution Equipment, Transformers, Switchgears, Switching Components ▪ Meter Data Management ▪ Control and protection. ▪ Health Safety and Environment: Electrical Rehabilitation.

Overview of Phase 1 Projects Cont.d

Transmission Work stream

- Scope validation & Alignment of Transmission projects to meet the objectives of PP in Phase 1 revised projects to be submitted to Siemens
- Execution of HV lines are explicitly excluded.

Power Stimulations for Nigeria (PSS4N)

- Networks systems development studies for 25GW and 11 GW scenarios

Training

- Software License training for NERC, Fgn Power Company ,NAPTIN, TCN and DisCo employees

Key Highlights & Achievements

PPI Achievements (1/4)

- **Scope Validation of Phase 1 Projects by Energy Market and Regulatory Consultants (EMRC):** The FGN Power Company was supported by Power Africa to engage the services of EMRC for the validation of PPI Phase 1 scope of work and identify areas of project duplicates and ensure alignment based on the scope as submitted by TCN and the DisCos. Scope Validation exercise took into consideration numerous intervention projects and ensured that the phase 1 projects will deliver the desired 2GW as envisaged under the phase 1 of the PPI.
- **NERC Approval of Validated PPI Scope:** Following the submission of scope validation exercise for consideration, the Nigeria Electricity Regulatory Commission (NERC) granted approval of the scope of transmission and distribution systems. The NERC also indicated that price offers be presented to the Commission for benchmarking and approval before execution of contracts.
- **Pre-Engineering for Distribution:** The pre-engineering activities for the contract that was executed between FGN Power Company and Siemens in February 2021 has been concluded. The scope of work involves the development of technical/functional specifications and guidelines required for onshore civil, Electrical, Installation, Erection, Testing and Commissioning (IETC) works, among others.



PPI Achievements (2/4)

- **Ordering of Transmission Mobile Substation and Transformers:** The FGN Power Company identified high-impact targets, including the delivery of 10 mobile transmission substations and 10 mobile transformers in Q3, 2022. The equipment will serve as intervention facilities to resolve capacity constraints in the transmission network across the country that align with the distribution network requirements. The first tranche is expected to be delivered in Q3 of 2022. Discussions on the main transmission scope of the project has advanced.
 - Secured Federal Executive Council Approval: The FGN Power Company has secured FEC approval for the purchase of mobile substation and mobile transformers from Siemens.
 - Following the Council's approval of the purchase, FGNPC has paid 15% of the contract sum as down payment to Siemens. The production had since commenced, and delivery expected in Q3 of 2022.
 - FGN Power Company has raised a Letter of Credit for the outstanding 85% of the project cost in favour of Siemens. The LC is expected to be swapped with the proceeds from financing upon reaching financial close, which is expected in May 2022.



PPI Achievements (3/4)

- **Ongoing Training for Network Studies (PTI):** FGN Power Company and Siemens have commenced the PTI Training program. The beneficiaries of the training programs include TCN, DisCos, NAPTIN, FGN Power Company and NERC. The PTI training will be for a period of 4 years. This workstream is intended to provide engineers with capacity building on power system simulation, network studies, and system planning skills. FGN Power Company has also deployed the simulation software to all utilities and relevant Government agencies.
- **Engagement of Transaction Advisers:** FGNPC has engaged and onboarded African Finance Corporation (AFC) as transaction advisors for the PPI implementation. The engagement of AFC includes that of third-party consultants for the international and local legal advisory services, Environmental and Social Consultant, Security Consultant, Insurance Adviser as well as Tax and Model Auditor.
- **Presidential & BPP Approval of Engineering Procurement and Construction (EPC) companies:** Following the submission of Siemen's nominations of EPC companies for consideration, Mr. President had graciously granted approval for the Distribution onshore EPC companies alongside EPCs for execution of line projects. FGNPC has also received "No Objection" from BPP for engagement of EPCs. The final steps in the onboarding process for the EPCs is currently underway.



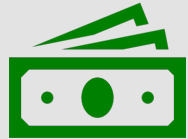
- **Negotiated Pilot Project Term Sheet:** FGNPC, supported by its Lead Transaction Adviser, Africa Finance Corporation (AFC), negotiated the pilot project financing term sheet for the supply of mobile units with the German Banks, Euler Hermes, Ministry of Finance and Debt Management Office. The Pilot Project Term Sheet is expected to be concluded in April 2022.
- **Submission of Offers by Siemens:** Siemens have submitted an indicative offer for the distribution offshore activities. The detail breakdown of the prices of individual equipment will be shared with the utilities in due course.

PPI IMPACT

Presidential Power Initiative Impact



About \$500 million will directly impact local companies that will serve as EPC subcontractors



Another \$200 million will indirectly impact other supportive businesses that provide logistics support, goods, services and consultancies



Recovery of 2,000MW available capacity by investing \$2.3 Billion in 200 projects



Improved and more stable power delivery to households and businesses



Economic

- Job creation
- Businesses save more and spend less on fossil fuel to power their businesses

Environmental

- Reduces pollution
- No generators, therefore less air and noise pollution

Financial

- Eradicates over-billing by tracking power usage (smart metering)
- Transparency



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