UK PACT RMI Detail

# RENEWABLE EMBEDDED GENERATION
# REGULATORY REQUIREMENTS AND PROCESSES

**Host & Facilitator: RMI**

**Presenters:**
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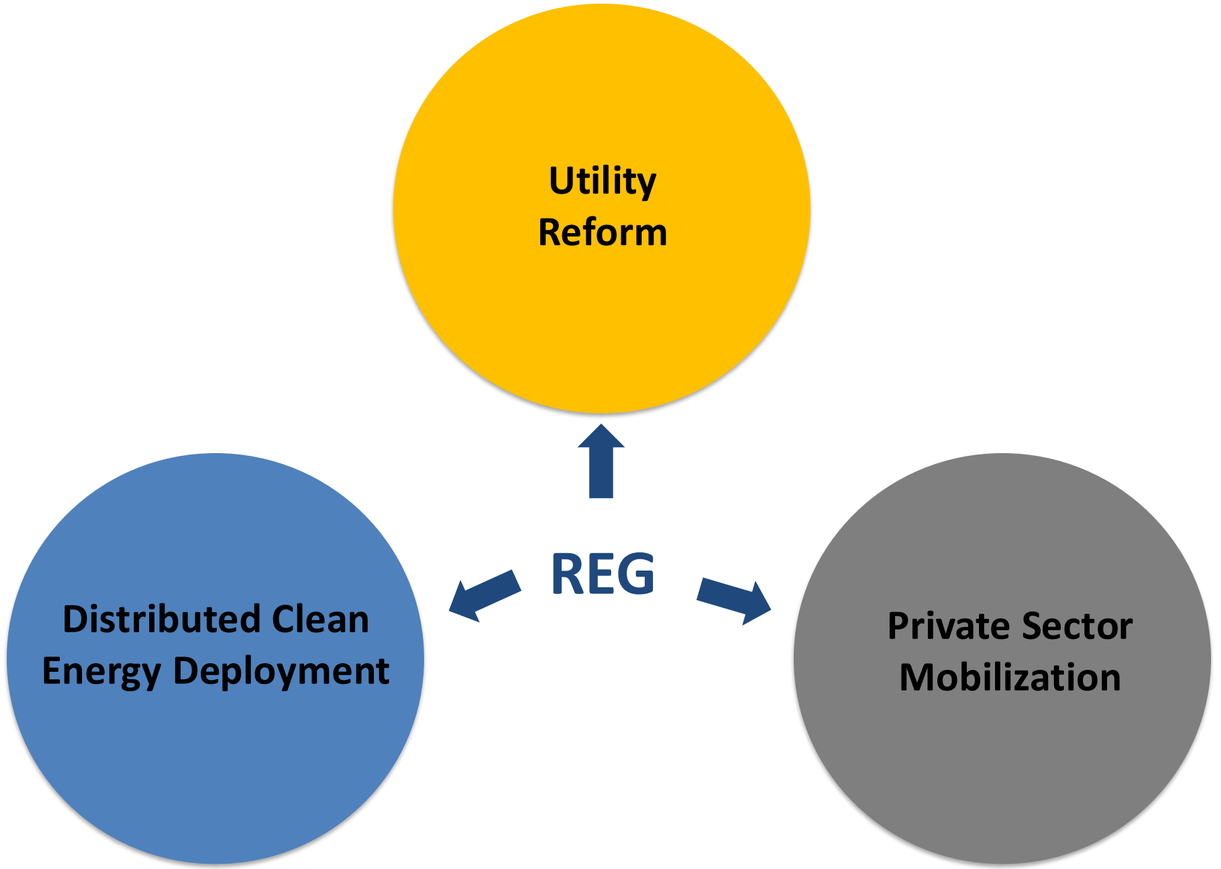
Associate, Detail Commercial Solicitors

# The Renewable Embedded Generation (REG) project aims to catalyze the growth of embedded generation in Nigeria

- Despite the potential for embedded generation to improve electricity supply for customers and the presence of an enabling regulation for embedded generation, **there are few embedded generation projects in Nigeria.**
- To solve this problem, the UK PACT (Partnering for Accelerated Climate Transitions) programme has funded RMI since 2021 to **design implementable and scalable business models for renewable embedded generation in Nigeria**.
- Over the past years, our work evolved from business model design and derisking, to transaction advisory and institutional engagement, to facilitating the sector's readiness to adopt REG at scale.



# The Regulatory Information Session today aims to build understanding of the regulatory pathway for implementing REG

The session will cover:

- An overview of the regulatory framework for REG
- Licensing and approval requirements for REG projects
- Key risk and mitigation considerations
- Q&A

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# Please feel free to use Chat function to introduce yourself (name, role, organization), and Q&A function to ask questions throughout.


Click “More” if you don’t see “Q&A” in the bar

# This session is being recorded.

# The REG business model increases supply for all customers and guarantees 24/7 reliability for premium customers

National Grid

Distribution Network

4 A mix of REG electricity and electricity from the main grid is sold to REG customers at **premium tariffs for premium customers and service-based tariffs for non-premium customers**

REG Customers

5 Customer payments from REG-served feeders go into an **independent collections account**

Independent Collections Account

DisCo Collection Account

6 Disbursements are made from the independent collections account to the DisCo and the developer

3 REG interconnects at a distribution substation. **Premium customers receive 24/7 reliability while other customers experience reduced load shedding compared to current supply**

2 The developer funds **distribution network upgrades, a load management system, interconnection, and smart metering**

1 A developer builds a solar PV embedded generation plant to increase supply to the feeder along with **enough battery storage and fossil fuel backup to guarantee 24/7 reliability** to premium customers

Renewable Embedded Generation

Developer

**Legend**

Arrows represent flows of:

**Payments**

**Electricity**

**Services**

## About DETAIL

DETAIL is distinct as Nigeria's first commercial solicitor firm to specialize exclusively in non-courtroom practice.

Because our clients value risk mitigation and dispute avoidance, DETAIL deploys its entire resources towards providing proactive legal and commercial advice. With over 20 lawyers devoted to this cause, we strive to provide efficient and responsive service that addresses the specific business needs of each client.

### Key Practice Areas

- Infrastructure, Energy & Power
- Corporate & Commercial
- Finance & Capital Markets
- Real Estate & Construction
- Private Equity
- Legal Tax Advisory
- Technology and Digital Economy

# Profile

Anthony Ezeamama is a Partner at the firm of Detail Commercial Solicitors. He leads the firm's Energy, Power & Infrastructure practice. He regularly advises clients operating in the different value chains of these practice areas on all aspects of their projects. Anthony's ability to understand and deal with complex legal and commercial issues, especially in relation to financing and development of energy and infrastructure projects, enables him to provide pragmatic solutions and value-added services to clients.

Anthony is practical and pragmatic in his approach and willing to go the extra mile in exploring solutions and options to difficult problems, which reflects in his expertise in conducting due diligence exercises and project documentation for clients, especially in Energy, Power & Infrastructure transactions.

Anthony also possesses extensive knowledge of Nigeria's taxation legal regime and as the Partner leading the firm's Legal Tax Advisory practice, he uses his extensive knowledge of Nigeria's taxation legal regime, to ensure that project structures and contracts are tax efficient.

Anthony is also a finance lawyer and assist clients (Lenders and Borrowers) in their finance transactions.

*Ranked as a "Rising Star Partner" – (Project Development: Energy)*
***IFLR1000 33rd Edition 2025***

*Ranked as a "Rising Star Partner" – (Project Development: Energy)*
***IFLR1000 33rd Edition 2024***

*Ranked as a "Rising Star Partner"*
***IFLR1000 32nd Edition 2023***

*Ranked as "40 Under 40 Leading Lawyers "*
***ESQ Nigerian Legal Awards, 2022***

Anthony Ezeamama

# Profile

Tolulope Olayiwola is an Associate at Detail Commercial Solicitors where she is an integral part of the Firm's Energy, Power & Infrastructure practice. She regularly provides strategic advice to clients involved in operating across the value chain of the Nigerian oil and gas, and power sectors. Tolulope is dedicated to providing comprehensive and effective legal solutions to clients across various sectors.

Tolulope Olayiwola

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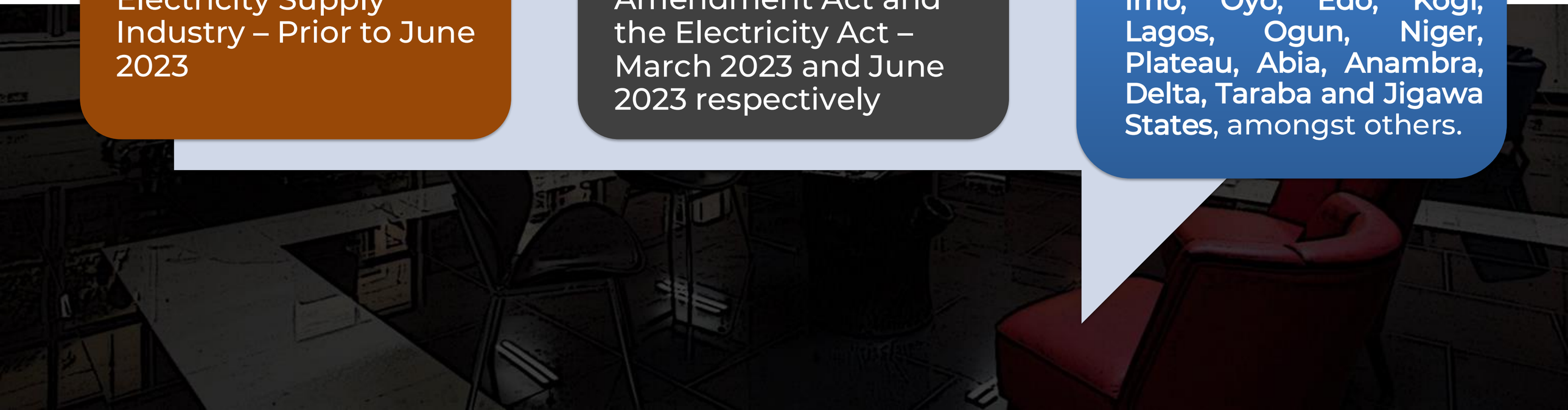
# DECENTRALISATION OF THE POWER SECTOR

Centralised Nigerian Electricity Supply Industry – Prior to June 2023

Enactment of the 5th Constitutional Amendment Act and the Electricity Act – March 2023 and June 2023 respectively

Enactment of different States Electricity Laws by: **Enugu, Ekiti, Ondo, Imo, Oyo, Edo, Kogi, Lagos, Ogun, Niger, Plateau, Abia, Anambra, Delta, Taraba and Jigawa States**, amongst others.



While the transfer of regulatory control from NERC to States has been completed by some States, others are in the process, as the table shows:

| S/N | States | Date of Assumption of Regulatory Control |
|---|---|---|
| 1. | Enugu | 22nd October 2024 |
| 2. | Ondo | 22nd October 2024 |
| 3. | Ekiti | 22nd October 2024 |
| 4. | Imo | 31st December 2024 |
| 5. | Oyo | 5th February 2025 |
| 6. | Edo | 20th February 2025 |
| 7. | Kogi | 12th March 2025 |
| 8. | Lagos | 4th June 2025 |
| 9. | Ogun | 23rd June 2025 |
| 10. | Niger | 9th July 2025 |
| 11. | Plateau | 12th September 2025 |
| 12. | Abia | 24th December 2025 |
| 13. | Nasarawa | 3rd February 2026 |
| 14. | Bayelsa | 20th February 2026 |
| 15. | Anambra | 16th April 2026 |
| 16. | Gombe | 6th July 2026 |

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# The schematic below shows a snapshot of the decentralization status of the States in Nigeria:

In the current phase of UK PACT-funded REG project, RMI is working with Benin DisCo, Ibadan DisCo, Jos DisCo and Port Harcourt DisCo to identify and develop REG pilots

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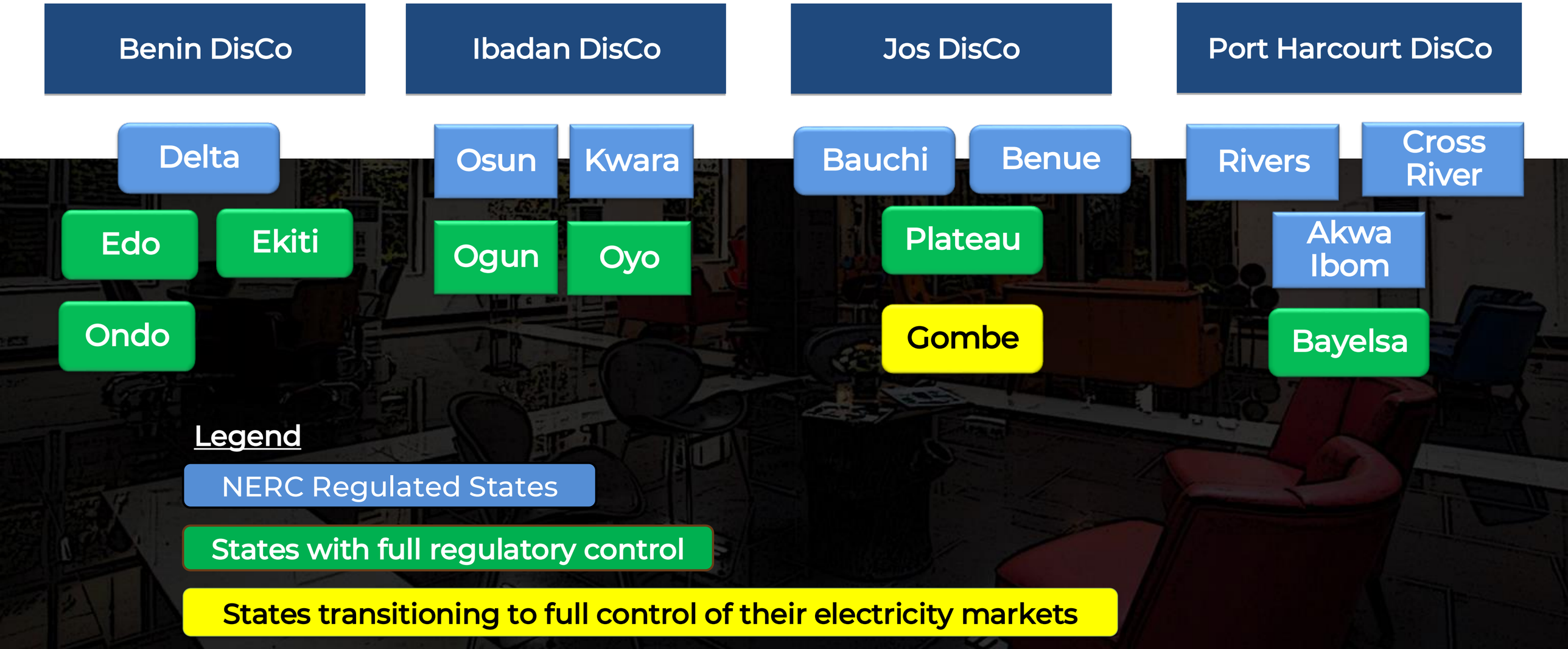

# LEGAL AND REGULATORY FRAMEWORK FOR REG PROJECT

# NERC EMBEDDED GENERATION REGULATIONS 2012

## Key provisions of the EG Regulation relevant to this project are:

- **Offtakers of the Embedded Generation Project**

  The potential offtakers of Embedded Generation include: Distribution Licensees, Independent Electricity Distribution Networks, Trading Licencees and Eligible Customers. Based on our review of the Project business model provided by RMI to DETAIL (the "**Business Model**"), we understand that the Offtaker under the Project are DisCos. These are entities which have obtained a valid and subsisting electricity distribution license from NERC under the Electricity Act or a State Law (*in the case of a State DisCo*).

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- **Classification of Embedded Generation**

| S/N | Size of Unit | Connection Voltage Level |
|---|---|---|
| 1 | Small size units having a nameplate rating greater than 1MW and not greater than 6MW | 11kV Medium Distribution Voltage |
| 2 | Large size units having a nameplate rating greater than 6MW and not more than 20MW | 33kV Medium Distribution Voltage |
| 3 | Greater than 20MW | 33kV Medium Distribution Voltage for every 20MW being evacuated |

Notwithstanding the foregoing, the EG Regulations allow an Embedded Generator to evacuate power generated using the most appropriate and economical voltage level based on tests conducted and paid for by the Embedded Generator. Please note that the maximum embedded generation capacity allowed for a given distribution system is **a percentage of the peak system load** of the Successor Disco's distribution system, which is determined by NERC from time to time.

# NERC EMBEDDED GENERATION REGULATIONS 2012

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- **Compliance with Grid Code:**

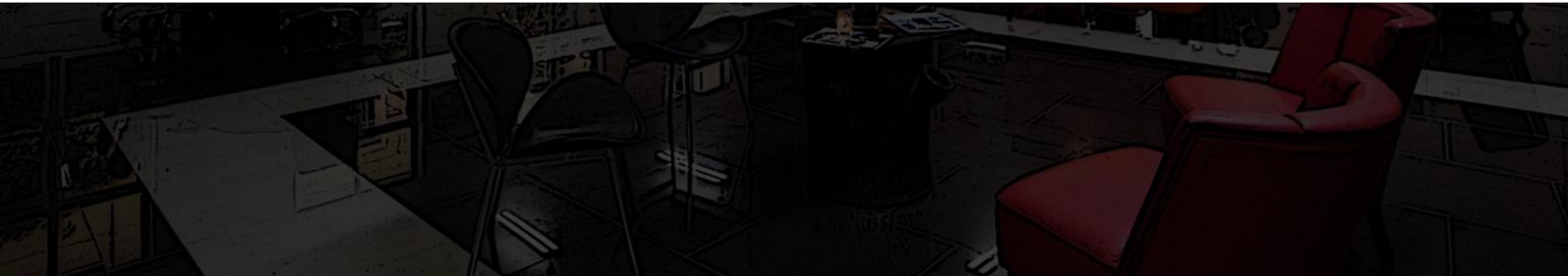
  Embedded Generation units **above 5MW** are required to comply with applicable provisions of the Grid Code. To the extent that the capacity of the Hybrid EG Plant will be above 5MW, the Developer will be required to comply with the relevant provisions of the Grid Code. We understand that the plants for this Project will likely reach or exceed 5MW as stated in the Business Model.

- **Embedded Generation Tariff under the EG Regulations**

  a. **Tariff for DisCos/IEDNs and Trading Licensees**: The tariff is determined under the methodology approved by NERC. Accordingly, the tariff charged by the Developer under its PPA with the Successor DisCos will follow this methodology, and where it exceeds the MYTO tariff, NERC's approval of the premium tariff is required. Tariffs for Non-Premium Customers will follow the service-based tariff design approved by NERC, while Premium Customers will be charged a premium tariff (service-based tariff band A+) as agreed in the PPA with the Successor DisCo.

## NERC EMBEDDED GENERATION REGULATIONS 2012

b. **Network Charges**: The Successor DisCo is entitled to impose reasonable connection charges approved by NERC for the connection of the Hybrid EG Plant to its distribution system. The Distribution Use of System (**"DUoS"**) charges must be guided by the tariff methodology approved by NERC. In this regard, we understand that the DUoS charge for the Project will be as stated in the Successor DisCo's MYTO.



# NERC EMBEDDED GENERATION REGULATIONS 2012

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- **Procurement of Embedded Generation**

  The EG Regulations provide that procurement of power shall be competitive and in accordance with the provisions of the Bulk Generation Procurement Guidelines and Codes approved by NERC. However, DisCos are not required to undergo a competitive procurement process where the capacity of the power plant is 10MW or less.

- **Cost Recovery for Network Reinforcement**

  Per the EG Regulations, where the DisCo cannot undertake the reinforcements and costs needed to evacuate the power generated into the network, the Connection Agreement shall provide for the recovery of the cost incurred by the Embedded Generation Licensee for any reinforcements or extensions executed, based on an agreed timeline.

  As provided in the Business Model, it is intended that the Project Developer would provide funds for upgrading the distribution network. Where the DisCo allows the Developer to fund the refurbishment of the distribution network, the Connection Agreement entered into between them would provide for the means by which the Developer can recover the cost incurred in upgrading the DisCo's distribution network. It should be noted that where the DisCo network is extended or augmented, and the network is used by more than one embedded generator, the cost is to be borne by all beneficiaries .

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# NERC Application for Embedded Generation License

This 8-step process is provided for under Chapter II of the NERC Application for Licences (Generation, Transmission, System Operations, Distribution and Trading) Regulations, 2010. See the link to the full requirements here.

1. Application for an embedded generation license is made in writing and addressed to the Chairman of NERC

   (see Explanation Note 1)

2. The application must be accompanied by the license processing fee as stipulated in the License and Operating Fees Regulations 2010

3. NERC may request for additional documents in support of application which must be submitted within 60 days of NERC's request

4. If NERC considers the application to be complete, a resolution shall be passed that the application has been duly made

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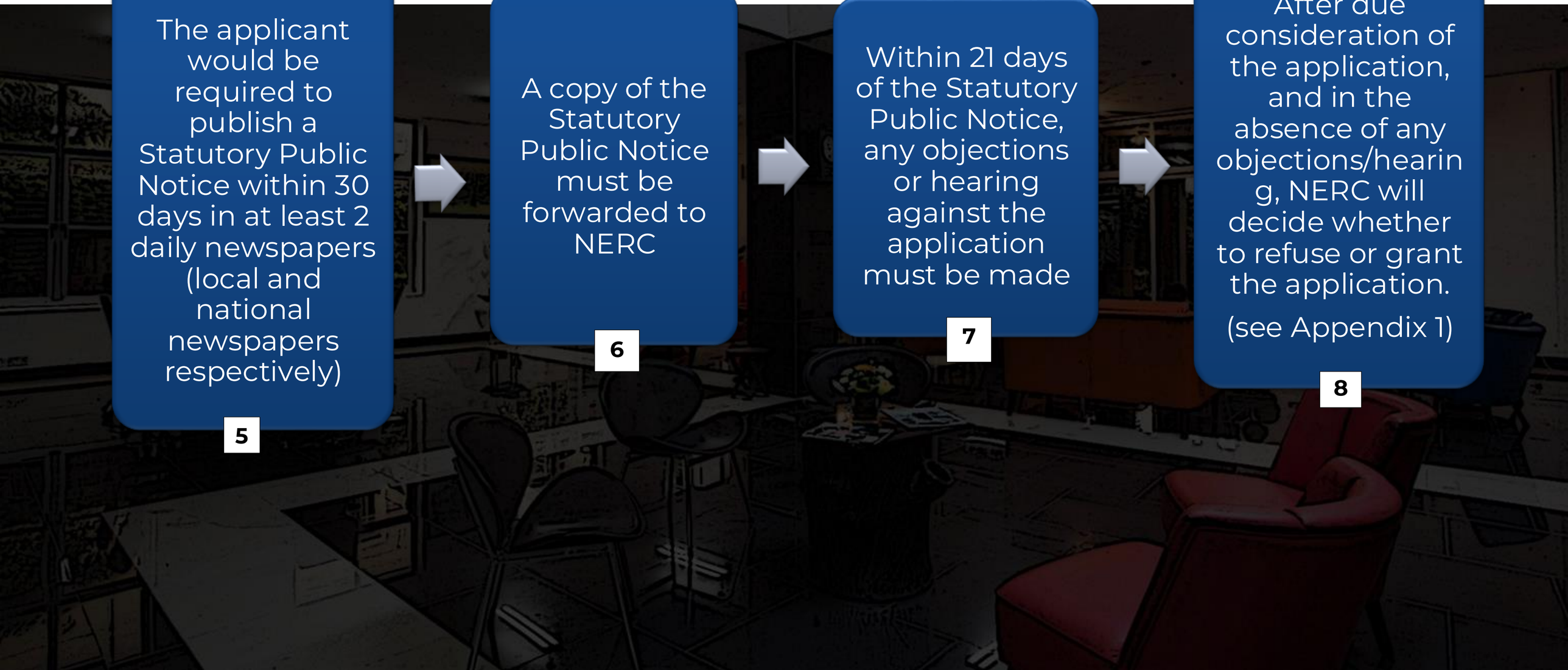
# NERC Application for Embedded Generation License



The applicant would be required to publish a Statutory Public Notice within 30 days in at least 2 daily newspapers (local and national newspapers respectively)

5

A copy of the Statutory Public Notice must be forwarded to NERC

6

Within 21 days of the Statutory Public Notice, any objections or hearing against the application must be made

7

After due consideration of the application, and in the absence of any objections/hearing, NERC will decide whether to refuse or grant the application.

(see Appendix 1)

8

# OYO STATE ELECTRICITY LAW 2024: A POTENTIAL REG PILOT SITE UNDER A STATE REGULATORY FRAMEWORK

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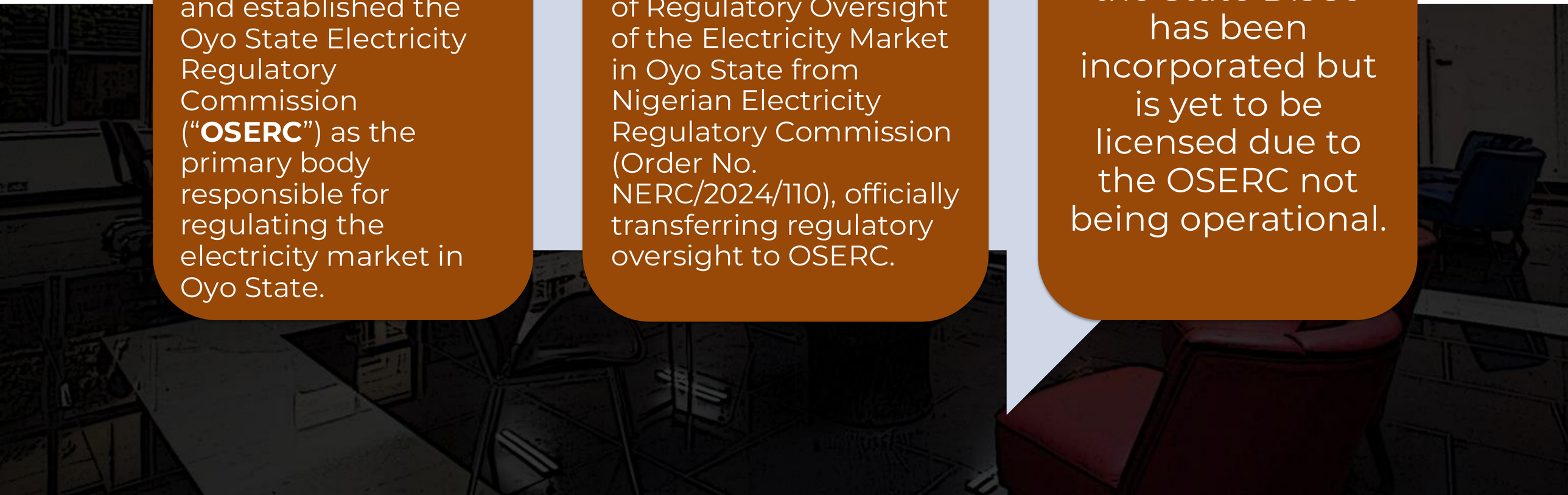
The Oyo State Government enacted the Oyo State Electricity Law 2024 and established the Oyo State Electricity Regulatory Commission ("**OSERC**") as the primary body responsible for regulating the electricity market in Oyo State.

Accordingly, on 6 August 2024, NERC issued Order of Transfer of Regulatory Oversight of the Electricity Market in Oyo State from Nigerian Electricity Regulatory Commission (Order No. NERC/2024/110), officially transferring regulatory oversight to OSERC.

We are aware that the State DisCo has been incorporated but is yet to be licensed due to the OSERC not being operational.



## Key Implications of the Oyo State Electricity Law 2024 for the project are:

- **Embedded Electricity Generation License from OSERC**

  To construct, own, operate, and maintain connected facilities for embedded generation of electricity, a Developer is required to obtain an Embedded Electricity Generation Licence from OSERC. The licence is granted for a period of fifteen years and is renewable for a further period of five years.

  However, as of today, OSERC has not been constituted, and the commissioners have not yet been appointed. As such, any applications for license within the State would be directed to the Oyo State Ministry of Energy and Mineral Resources. Therefore, the issuance of all applicable licenses and permits for the Project falls within their ambit.

- **Tariff Framework**

  Tariffs for electricity supplied by the Developer to the State DisCo must follow OSERC-approved methodologies. Notwithstanding this, the Developer, the State DisCo, and Premium Customers may agree on a Premium tariff on a willing buyer, willing seller basis, subject to OSERC approval.

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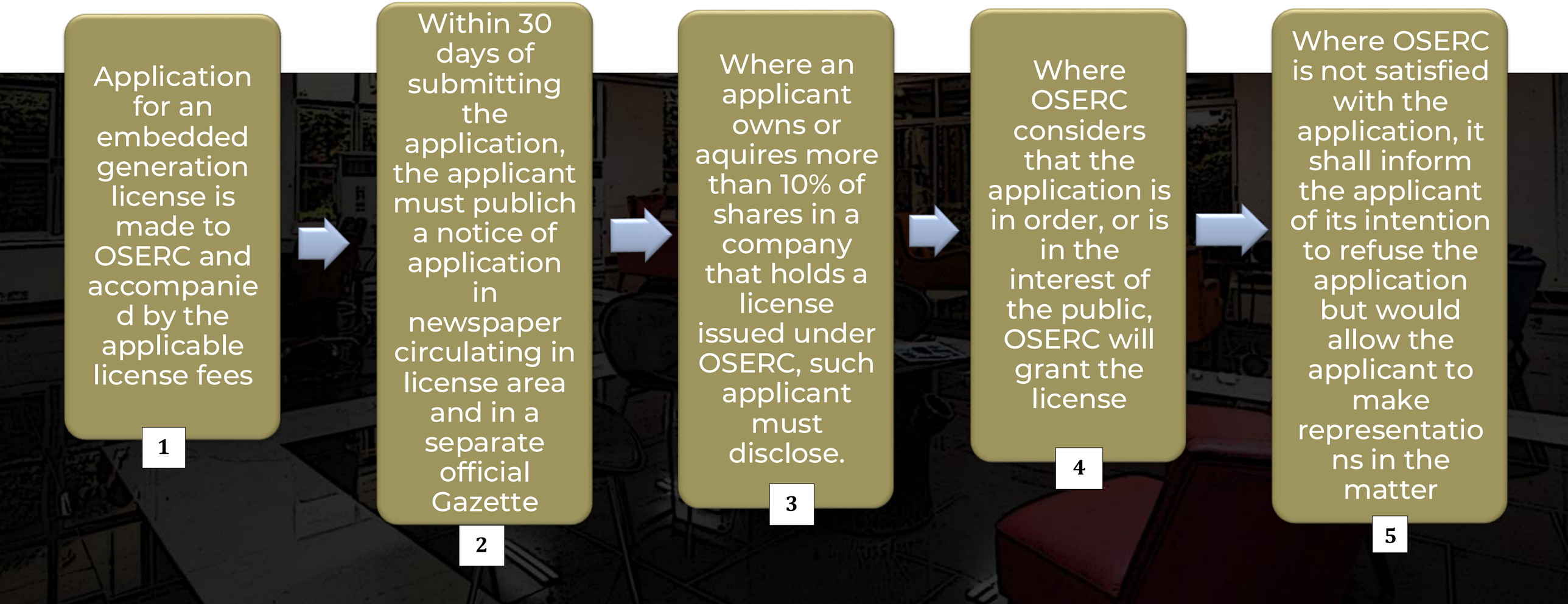
# OSERC Application for the Embedded Generation License under the Oyo Law

This 5-step process is provided for under section 46 of the Oyo Law:



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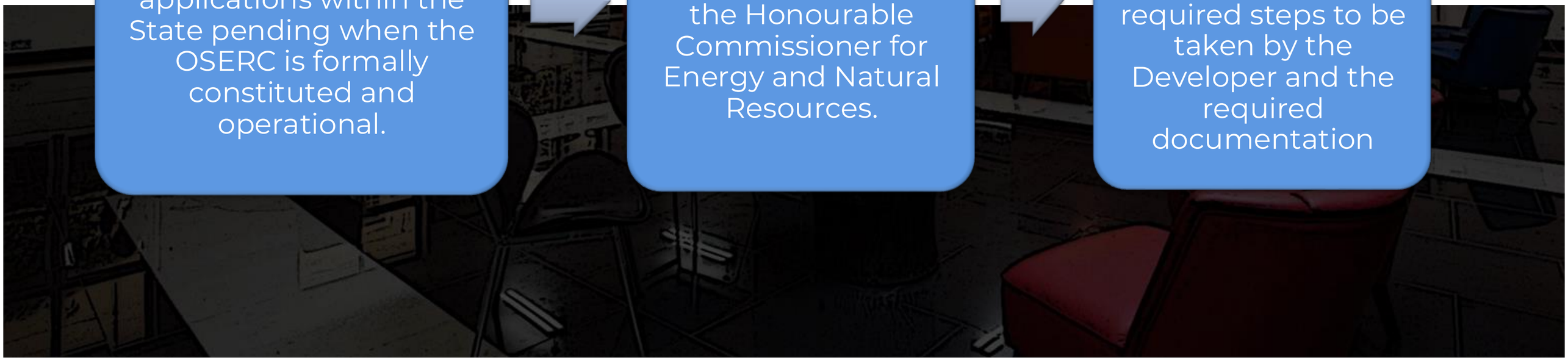
## The Interim Process for obtaining Embedded Generation License in Oyo State:

The Oyo Ministry of Energy and Mineral Resources is in charge of licenses and permits applications within the State pending when the OSERC is formally constituted and operational.

Thus, an application for an Embedded Generation License would be to write to the Honourable Commissioner for Energy and Natural Resources.

The Honourable Commissioner for Energy and Natural Resources would then advise on the required steps to be taken by the Developer and the required documentation



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## CONSENTS, KEY LICENCES AND APPROVALS
## Applicable licenses/approvals

| S/N | License/Approval | Consenting Party/Authority | Responsible Party |
|---|---|---|---|
| 1. | Embedded Generation License | NERC—for States still under NERC's control (such as *Osun, Kwara, Rivers, Delta, Bauchi, Gombe and Benue States*) | Developer |
| 2. | Distribution License | NERC—for States still under NERC's control (such as *Osun, Kwara, Rivers, Delta, Bauchi, Gombe and Benue States*) | Successor DisCo |
| 3. | Embedded Generation License and Distribution License in Oyo State (as an example of states with State regulatory control) | OSERC/ Ministry of Energy and Natural Resources | Ibadan DisCo/ State DisCo |
| 5. | Environmental Impact Assessment (EIA) Approval | Federal Ministry of Environment | Developer |

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## CONSENTS, KEY LICENCES AND APPROVALS

### Applicable licenses/approvals

| S/N | License/Approval | Consenting Party/Authority | Responsible Party |
|---|---|---|---|
| 6. | Certificate of Conformity (SONCAP) | Standard Organization of Nigeria | Developer or Equipment Supply Contractor (depending on the party importing the equipment) |
| 7. | Nigerian Electricity Management Service Agency (NEMSA) certificate | NEMSA | Developer, for certification of the electrical equipment |
| 8. | Certificate of Competence for Electrical Personnel from NEMSA | NEMSA | Construction contractor, for the certification of its personnel |
| 9. | Land Title | NERC & relevant Ministry of Lands | Developer |
| 10. | Building/Development Permit | Urban and Regional Planning Authority/ Oyo State Bureau of Physical Planning and Development Control | Developer |

# CONSENTS, KEY LICENCES AND APPROVALS

## Applicable licenses/approvals

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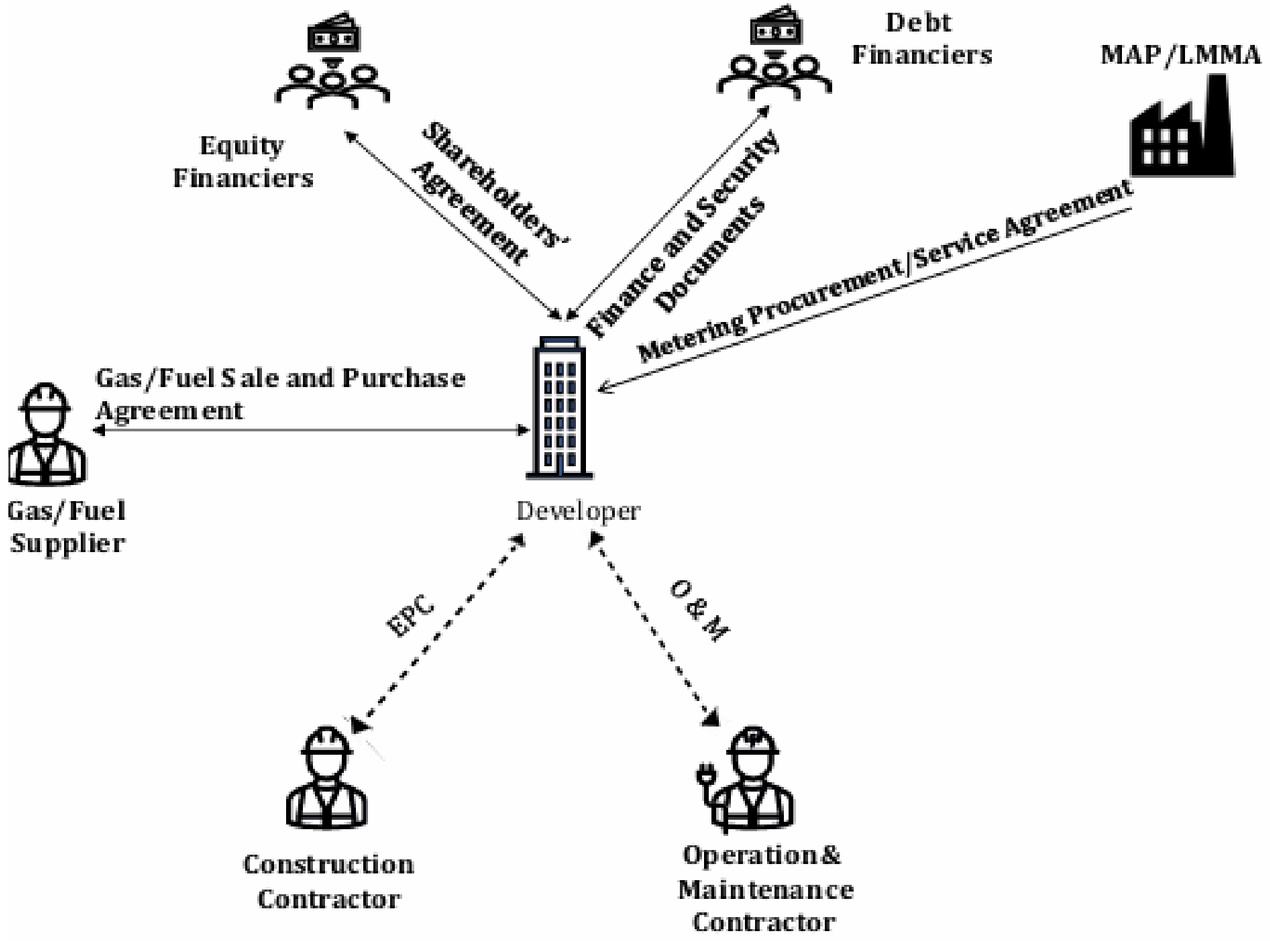
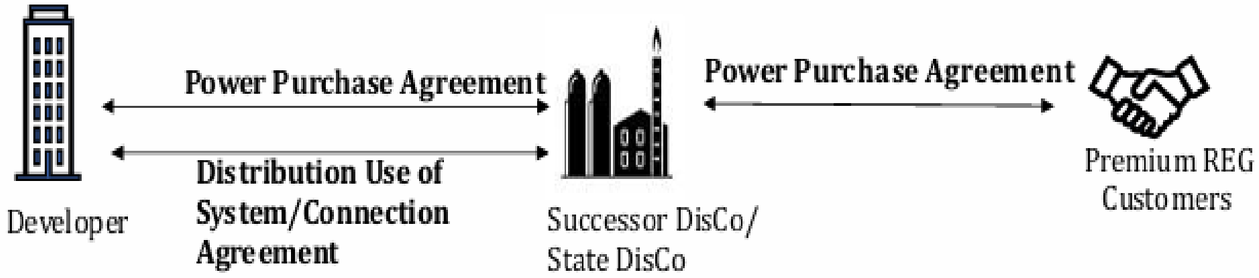
| S/N | License/Approval | Consenting Party/Authority | Responsible Party |
|---|---|---|---|
| 11. | Air Quality Permit | National Environmental Standards and Regulations Enforcement Agency ("NESREA") | Developer |
| 12. | Waste and Toxic Substances Permit/Effluent Discharge Permit | NESREA | Developer |
| 13. | Fire Safety Certificate | State Fire Service | Developer |
| 14. | NERC's Approval of the Premium Tariff | NERC—for States still under NERC's control (such as *Osun*, *Kwara*, *Rivers*, *Delta*, *Bauchi*, *Gombe and Benue States*) | Developer |
| 15. | OSERC Approval of the Premium Tariff in Oyo State | OSERC | Developer |
| 16. | Clearance Certificate for the Importation of Generating Sets | NERC | Developer |

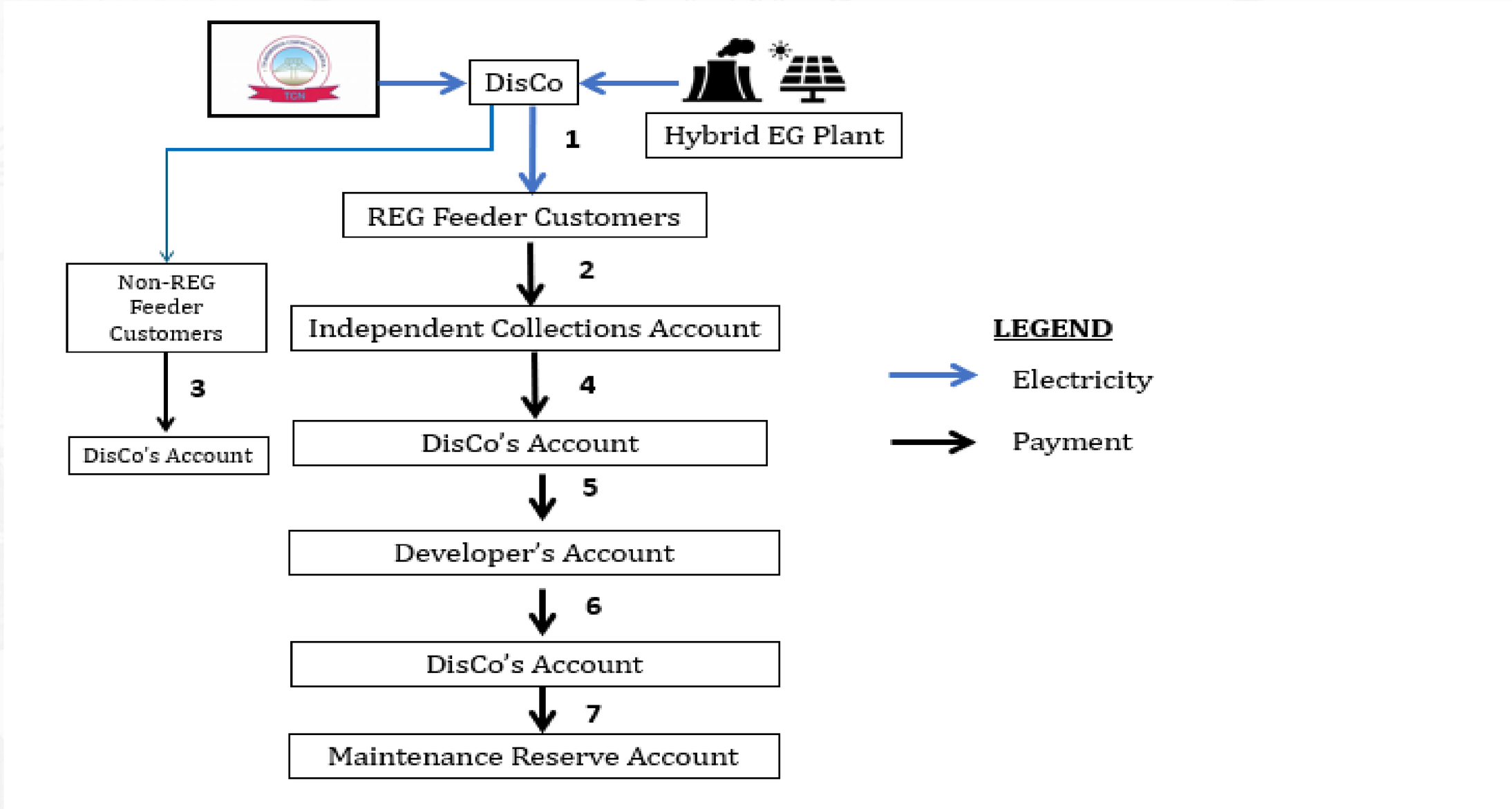
# CONTRACTUAL FRAMEWORK FOR THE PROJECT (DEVELOPER)



# CONTRACTUAL FRAMEWORK FOR THE PROJECT (DISCO)



# NERC'S SECONDARY ESCROW GUIDELINES AND THE PAYMENT WATERFALL MECHANISM UNDER THIS TRANSACTION



# NERC'S SECONDARY ESCROW GUIDELINES AND THE PAYMENT WATERFALL MECHANISM UNDER THIS TRANSACTION

- From collections received, payments are disbursed first to the Successor DisCo or State DisCo, which discharges its market obligations to the Nigerian Electricity Market, being the lower of 30% of monthly collections or the total invoiced amount.

- The Developer is then paid on a priority basis, receiving the lesser of the total amount due or the available balance of collections. A billing period is not deemed complete until the Developer is fully paid, with any outstanding balance carried forward and settled at the commencement of the next billing period.

- The Successor DisCo or State DisCo is then paid the lower of its full monthly entitlement or the remaining collections balance.

- The Maintenance Reserve Account is thereafter funded with the lower of the required monthly reserve or the remaining balance. Any residual funds are retained in the Independent Collections Account and applied in the succeeding settlement period.

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# KEY RISK AND MITIGATION CONSIDERATIONS

**LEGEND**

| | |
|---|---|
| | **High Risk** |
| | **Medium Risk** |
| | **Low Risk** |

| S/N | Key Consideration | Mitigation |
|---|---|---|
| 1. | **Uncertainty around the Transition to State Electricity Markets and Regulators** | We will recommend that where a developer intends to establish a project in a location within a State which has transitioned from the NERC regime, direct engagement with the regulators, both State and Federal, is advised to obtain clarity on the processes that obtain in practice. |
| 2. | **Uncertainty around Technical Standards Applicable to the Project at the State Level** | We recommend that the Developer initiate early engagement with NERC, NEMSA, and the SERCs to determine the technical standards that will apply to the Project. |
| 3. | **Unfavourable State Regulatory Environment** | Given the early stage of many States' regulatory frameworks, proactive engagement with State regulators is critical to managing approvals, compliance, and evolving policies. This should include engaging with NERC and the DisCos to ensure that state-level risks are identified and mitigated. |

# KEY RISK AND MITIGATION CONSIDERATIONS

**LEGEND**

| | |
|---|---|
| | **High Risk** |
| | **Medium Risk** |
| | **Low Risk** |

| S/N | Key Consideration | Mitigation |
|---|---|---|
| 4. | **Premium Tariff** | The Developer and the Successor DisCo should ensure that they conduct prior customer consultation prior to obtaining the consent and approval of NERC and the SERC for the Project. |
| 5. | **Access to land/ Right of Way** | The Developer and the Successor DisCo/ State DisCo should conduct early land surveys and stakeholder engagement to identify affected landowners, secure necessary rights of way, and negotiate compensation or acquisition agreements in advance of construction |
| 6. | **The Independent Collections Account** | The Developer and Successor DisCo, where a new Independent Collections Account is to be opened, should engage the DMB and NESI-SSL early to obtain the required approvals. |
| 7. | **Risk of Payment Recovery** | The Developer and Successor DisCo may meter Non-REG Feeder Customers to mitigate the risk of non-payment or delayed payment. |

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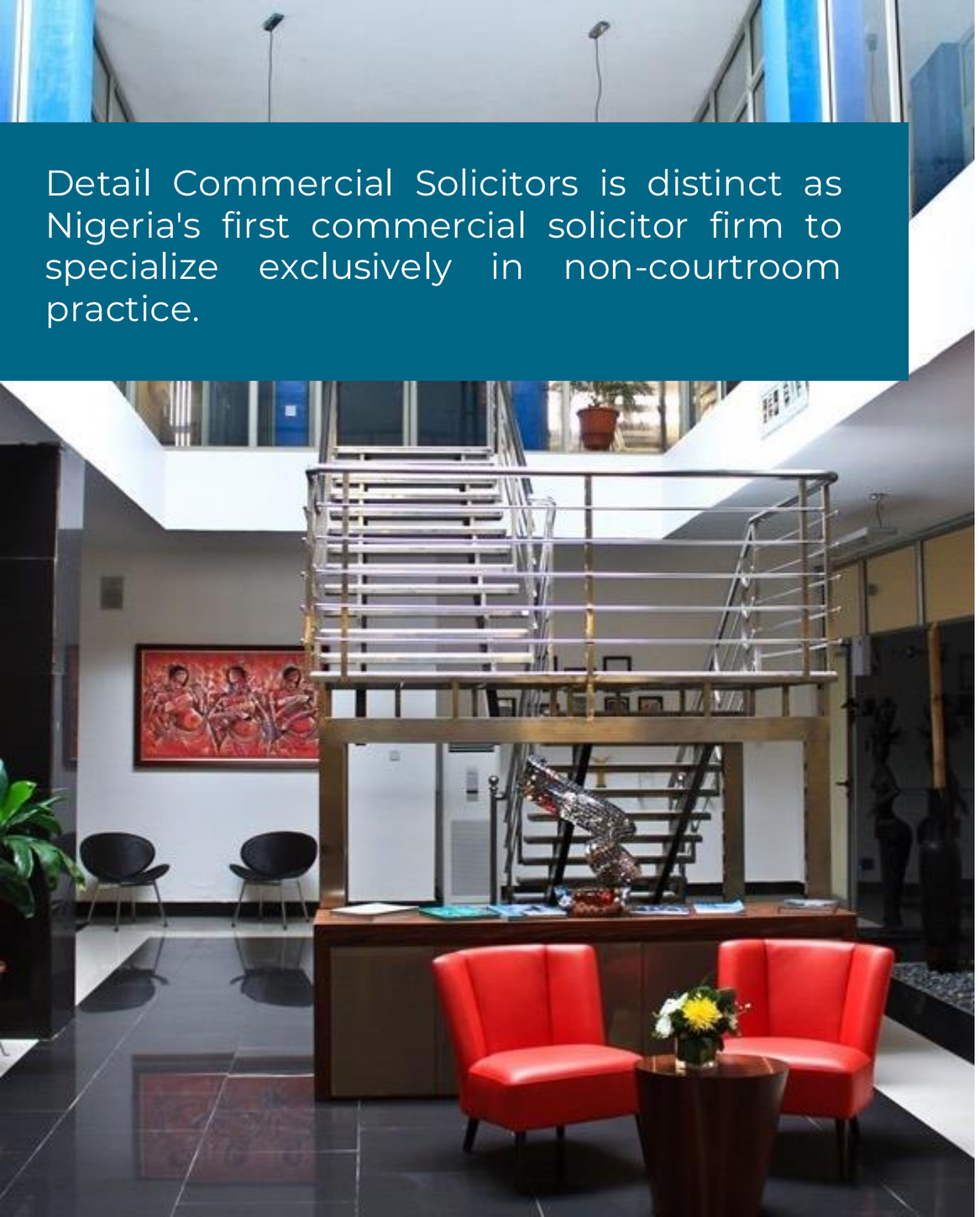
# Questions

**Please submit questions in the Q&A, or you can raise your hand and speak up if preferred.**



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# Contact Us

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# Thank You!

**We look forward to advancing REG in Nigeria together.**


**CONTACTS**

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