



Renewable Embedded Generation

Site selection guide for electricity distribution companies (DisCos)

February 2026

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Abbreviations

AMI	Advanced Metering Infrastructure
ATC&C	Aggregate Technical, Commercial and Collection
BESS	Battery Energy Storage System
CAPEX	Capital Expenditure
C&I	Commercial and Industrial
DER	Distributed Energy Resources
DisCo	Electricity Distribution Company
E&S	Environmental and Social
GBV	Gender-Based Violence
GEDSI	Gender Equity, Disability and Social Inclusion
HV	High Voltage
ICA	Independent Collections Account
KVA	Kilo Volt-Ampere
kW	Kilowatt
kWh	Kilowatt-Hour
LOI	Letter of Intent
LV	Low Voltage
MD	Maximum Demand
MVA	Mega Volt-Ampere
MW	Megawatt
MWh	Megawatt-Hour
NEMSA	Nigerian Electricity Management Services Agency
NERC	Nigerian Electricity Regulatory Commission
OPEX	Operational Expenditure
PIP	Performance Improvement Plan
PPA	Power Purchase Agreement
PV	Photovoltaic
REG	Renewable Embedded Generation
RMI	Rocky Mountain Institute
SERC	State Electricity Regulatory Commission
UK PACT	United Kingdom Partnering for Accelerated Climate Transitions

1 Introduction

Electricity distribution companies (DisCos) across Nigeria face persistent challenges in delivering reliable, affordable power to customers, particularly commercial and industrial (C&I) users whose operations depend on a consistent supply. The Renewable Embedded Generation (REG) model offers DisCos an opportunity to improve service quality, reduce customer defection to self-generation, unlock new revenue streams, and strengthen the overall resilience and performance of their network.

This **REG Site Selection Guide** provides DisCos with a structured, data-driven and replicable process to identify, evaluate, and prioritise viable feeders and geographic clusters within their franchise areas that are suitable for REG projects. The selection methodology has been developed to ensure that proposed REG projects are attractive to prospective developers and financiers, while also meeting DisCos' commercial objectives, regulatory requirements and local infrastructure realities.

This guide complements RMI's **Implementational Manual for the REG Business Model** and **Distributed Energy Resources (DER) Toolkit**, which provides a standardised set of resources and templates to support DisCos in developing REG projects, including detailed implementation plans, financial modelling tools, legal and commercial agreement templates and standardised procurement documents. Together, these resources will enable DisCos to design, evaluate and execute bankable REG projects with greater speed and consistency.

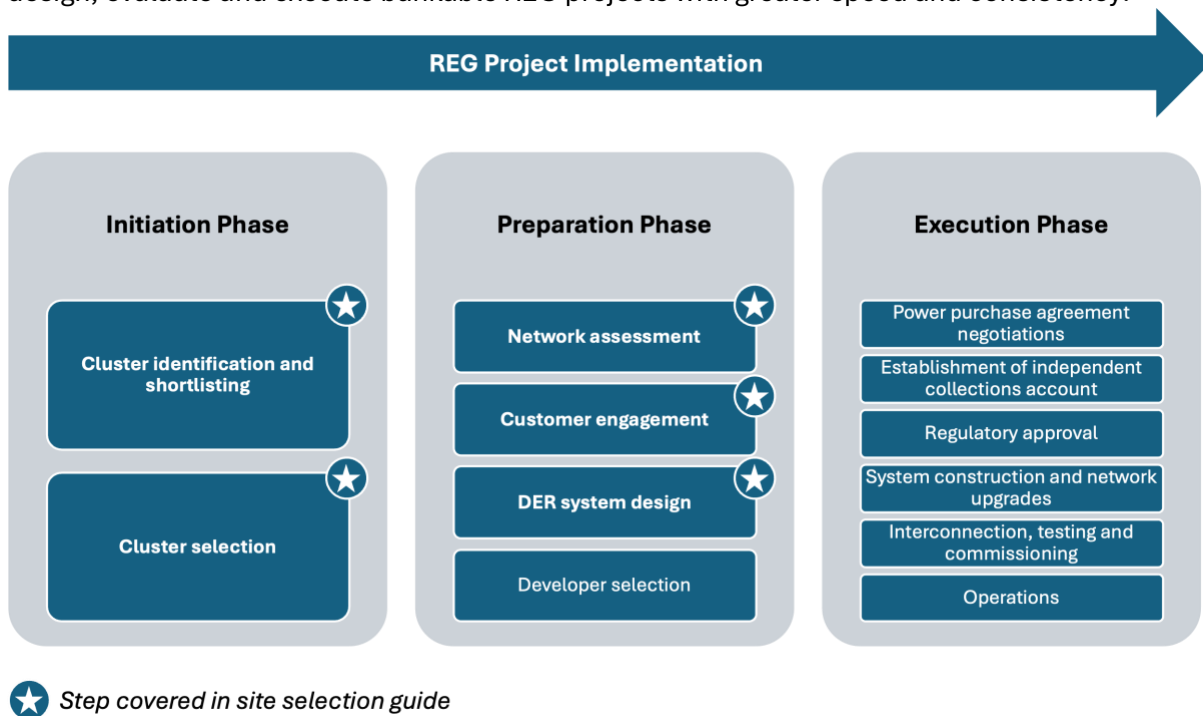


Figure 1: Steps involved in the REG project lifecycle

This **REG Site Selection Guide** covers the early stages of the REG project implementation cycle, focusing on activities in the Initiation and early Preparation Phases, including cluster identification and shortlisting, cluster selection, and prefeasibility studies such as network assessments, customer engagement and DER system design (**Figure 1**). The selection process begins with identifying potential sites within the DisCo's network and concludes with management approval following the completion of prefeasibility studies.

1.1 Objectives of the Guide

The project selection guide aims to:

1. **Standardise the REG site identification process** across Nigerian DisCos
2. **Integrate technical, commercial and socio-economic criteria** to assess viable feeders for REG projects
3. **Support data-driven investment decisions** that minimise regulatory risk and maximise financial returns
4. **Enable pipeline development** of shovel-ready REG projects suitable for private developer procurement
5. **Outline Gender Equity, Disability and Social Inclusion (GEDSI) risks and opportunities** in REG projects

1.2 Structure of the Guide

This guide is structured in eight sections:

- **Section 1** provides an overview of the guide, its objectives and structure.
- **Section 2** describes the Renewable Embedded Generation business model.
- **Section 3** defines the characteristics of a good REG site, including technical, commercial and regulatory factors.
- **Section 4** describes the REG project selection steps, including the key activities, inputs, outputs and timelines.
- **Section 5** outlines the roles and responsibilities of DisCo teams in the site selection process.
- **Section 6** proposes a monitoring and evaluation framework for assessing DisCo's progress and effectiveness in site selection.
- **Section 7** identifies potential risks in the selection process and provides mitigation measures.
- **Section 8** includes templates and tools referenced throughout the guide to support the selection process.

2 Overview of the Renewable Embedded Generation Business Model

Renewable Embedded Generation¹ is an innovative business model designed to enable Nigerian DisCos to utilise DERs to increase supply reliability to their customers, independent of the national grid, and improve commercial performance.

Under the REG model, DisCos partner with private developers who finance, build, and operate DER generation assets² (the ‘REG’) that serve a defined cluster of customers or a feeder. The developer also funds distribution network upgrades, the interconnection of the REG system, and the smart metering of customers in the cluster, which will reduce network outages and aggregate technical, commercial, and collection (ATC&C) losses. The DisCo continues to own and operate the distribution network. **Figure 2** illustrates the REG business model.

Customers served by the REG are classified into premium and non-premium customers. When grid supply is available, REG generation supplements it and serves all customers. When grid supply is unavailable, REG can continue to serve customers, with premium customers guaranteed an uninterrupted supply and non-premium customers receiving supply to the extent that generation is available. Premium customers are charged a higher tariff for uninterrupted supply, while non-premium customers continue to pay service-based tariffs based on the hours of supply they receive.

REG projects can advance GEDSI by creating local jobs and supplier opportunities for women and youth, while improving reliable, affordable energy access for households and small businesses that are often energy-poor. When designed inclusively, they also reduce safety risks, strengthen community participation in decision-making, and ensure project benefits are shared beyond local power brokers and large enterprises.

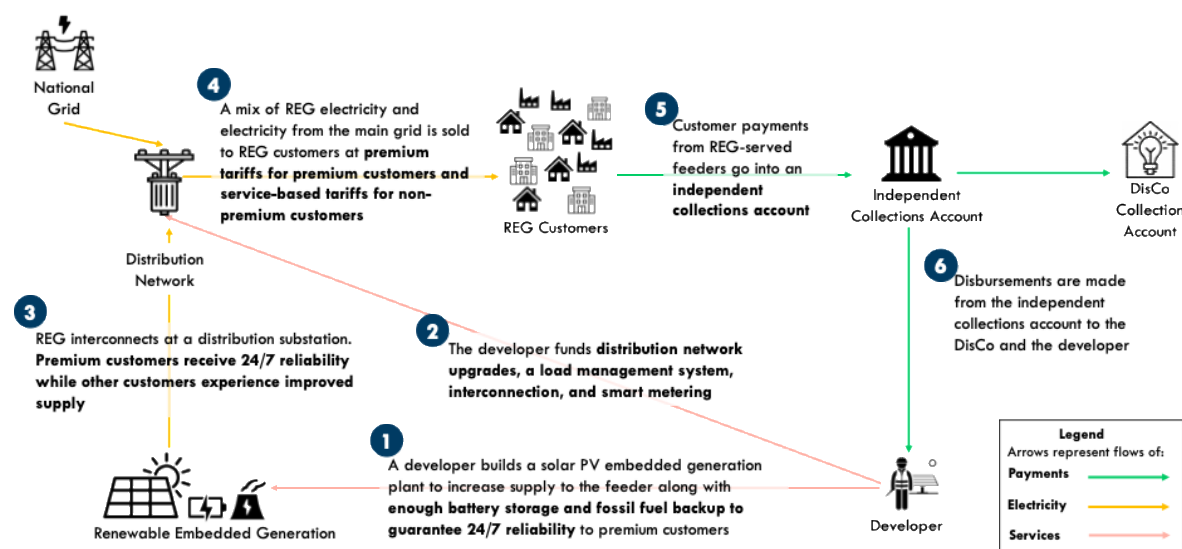


Figure 2: Renewable Embedded Generation business model.

¹ Embedded generation refers to electricity generated and interconnected at the distribution level rather than via the transmission grid.

² Primarily consisting of solar PV, battery storage and backup thermal generation (diesel or gas).

2.1 Key Actors and Responsibilities

A REG project involves three primary actors:

- **DisCo:** Identifies suitable clusters, maintains the distribution network, manages customer relationships, bills and collects payments, and purchases power from the REG.
- **Developer:** Finances, constructs, and operates the REG system and sells electricity to the DisCo under an embedded generation agreement.
- **Customers:** Purchase electricity from the DisCo under standard or premium supply arrangements. Premium customers commit to higher tariffs in exchange for an uninterrupted supply.

This structure preserves the DisCo's role as the sole retailer of electricity within its franchise area while enabling developers to invest in new generation capacity without requiring DisCos to take on capital expenditure.

2.2 Commercial Arrangements and Payment Flows

Two key contracts govern the stakeholder relationships for REG projects:

- The **embedded generation agreement** between the DisCo and the developer defines tariff structure, availability commitments, performance obligations, risk allocation, and interconnection requirements.
- **Power Purchase Agreements (PPAs)** between the DisCo and premium customers, defining service levels, tariffs, and customer obligations.

To ensure revenue assurance for developers and minimise financial exposure for DisCos, REG projects use an **Independent Collections Account (ICA)**: a ring-fenced account through which all REG customer payments flow before disbursement. This ICA structure ensures that collections for REG customers are transparently allocated to the developer, the DisCo, the market operator (as required), and a maintenance reserve account, according to a predefined waterfall. This mechanism protects developer revenue without requiring DisCos to issue costly bank guarantees.

2.3 Benefits of the REG Business Model for DisCos

The REG model benefits all stakeholders:

- **For DisCos**, REG increases energy sales, reduces ATC&C losses through smart metering and network upgrades, and unlocks financing for infrastructure improvements. REG also contributes to the Nigerian Electricity Regulatory Commission's (NERC) embedded generation targets.
- **For customers**, REG provides improved supply reliability and lowers electricity costs compared with diesel generators.
- **For developers**, REG provides access to larger customer pools, a de-risked structure for collaborating with DisCos, and access to funding from climate-focused financiers.

3 What Makes a Good REG Site?

The criteria below define the characteristics of an optimal REG site. DisCos should use the criteria below to identify potentially viable sites within their network before conducting further prefeasibility studies.

3.1 Technical Characteristics

A good REG site should have high levels of latent demand, manageable network losses, and network conditions that are suitable for DER integration. Desirable features include:

- **Adequate load and demand density:** Peak demand and monthly energy consumption of at least 2.5 MW and 150 MWh/month, respectively. The site should also have a stable or growing demand to support the REG system.
- **Sufficient grid availability:** Average grid supply of 8-16 hours daily; this is sufficient to complete the REG system, but not so much as to make the REG obsolete.
- **Good distribution network health:** Acceptable transformer loading, good distribution equipment, high metering penetration, and sufficiently low technical losses.
- **Limited network upgrade requirements:** Limited transformer replacements, reconductoring, and smart metering upgrades needed.
- **Clear interconnection points:** Available interconnection points at the 11 kV or 33 kV level, with space for network upgrades and minimal right-of-way constraints.
- **Land availability:** Land within or near the cluster for siting solar PV and associated infrastructure.

3.2 Commercial Characteristics

The REG model depends on a commercially viable customer base that can generate predictable revenues. An optimal site should have:

- **High share of commercial and industrial (C&I) customers:** C&I and maximum demand (MD) customers, whose operations require reliable power, contribute more than 30% of total energy consumption.
- **Clear premium customers:** Significant presence of C&I and MD customers with stable operations and high self-generation costs, who express willingness to pay for improved service.
- **High billing and collection rates:** Low commercial and collection losses from customers.
- **Ability to pay:** Customers can afford the premium tariff, assessed through historical consumption, existing energy spending patterns, and on-site discussions.

3.3 Social, Environmental and GEDSI Characteristics

A proposed REG site should have no adverse social or environmental conditions. GEDSI risks and opportunities should also be considered. These include:

- **Low security risk:** Project location is safe with minimal threat of vandalism or harm to infrastructure and personnel.
- **Community buy-in:** Customers support measures improve the reliability of service.
- **Manageable environmental and social (E&S) risks:** Location does not have complex land disputes, high-voltage (HV) encroachments, or environmental sensitivities that could delay implementation.
- **GEDSI risks and opportunity management:** Focus on inclusive stakeholder engagement, transparent land and benefit-sharing processes, and set targets for local hiring and skills development for women and youth. Strengthen contractor codes of conduct, gender-based violence (GBV) prevention measures and accessible grievance mechanisms, and design projects to improve local energy access and community benefits.

3.4 Regulatory and Strategic Considerations

An ideal REG site should meet all regulatory requirements and align with DisCo’s strategic goals.

- **Licensing requirements:** Peak demand is less than 20 MW, which is the maximum capacity for REG projects.
- **Alignment with new state regulatory regime:** Proposed project aligns with new electricity policies and relevant regulations in newly established state electricity markets.
- **Alignment with DisCo’s performance improvement plan (PIP):** Clusters identified for projects align with DisCo’s broader strategic goals to boost service delivery and commercial performance.

4 REG Project Selection Process

The REG project selection process involves **five steps**: data collection and screening, feeder prioritisation, field visits and stakeholder engagement, pre-feasibility studies, and final selection and manager approval.

The steps are described in detail below.



Figure 3: Steps in the REG site selection process.

4.1 Data Collection and Screening

This step involves collecting and collating cluster- or feeder-level technical, commercial and customer information to develop a database of all potential REG sites across the DisCos network. DisCos should extract the relevant information from internal systems and supplement gaps through consultations with area offices and regional teams.

For each cluster, data should be collected on the following.

- **Technical data:** Load profiles, peak demand, transformer capacities, grid availability hours, metering penetration, tariff band, and infrastructure deficiencies.
- **Commercial data:** Total revenues, revenues from commercial and MD customers, billing and collection efficiencies, and ATC&C losses.
- **Customer mix:** Residential, commercial, industrial, and MD customer counts and shares of energy consumption and revenues.
- **GIS and asset data:** Geolocation of feeders, substations, C&I clusters, and available land for solar PV plants.
- **Environmental, social and GEDSI factors:** Local security considerations, site accessibility, gender mix of customers, job creation, GBV mitigation and response (from inflow of labour, and broader worker and community dynamics) and other E&S risk factors that may influence project implementation.

To collate this data, the responsible DisCo team needs to

1. Extract cluster-level data from internal systems and databases
2. Where data gaps exist, contact the region or area team responsible for the cluster to gather missing information
3. Clean and format datasets in a format that can be used for site evaluation (**Annex A**)
4. Calculate technical, commercial and customer indicators such as customer share of consumption and sales.

The **REG Site Data Collection Template (Annex A)** provides an Excel template for collecting and analysing data on potential REG clusters. For ease of future data collection, the DisCo can transform the template into an internal dashboard that details all potential project locations and their characteristics. This will allow for easy data extraction and analysis in the future.

4.2 Cluster Prioritisation

This step uses a multi-criteria evaluation framework to screen and evaluate the clusters identified in **Section 4.1**. Clusters are scored and ranked based on their technical, commercial and operational viability. The outcome is a ranked shortlist of high-potential clusters for further prefeasibility studies.

The multicriteria evaluation framework assesses feeders based on the following dimensions:

Table 1: Sample evaluation criteria for REG clusters.

Characteristic	Sample Indicators	Desired Characteristics	Sample Weighting
Technical	<ul style="list-style-type: none"> • Peak electricity demand • Total monthly energy consumption • Share of C&I energy consumption • Metering penetration • Daily grid availability 	<ul style="list-style-type: none"> • 7.5-10 MVA • More than 250 MWh • More than 30% • Greater than 50% • 14-20 hours 	55%
Commercial	<ul style="list-style-type: none"> • Share of C&I and MD customers • Billing efficiency • Collection efficiency 	<ul style="list-style-type: none"> • More than 20% • More than 80% • More than 50% 	25%
Operational	<ul style="list-style-type: none"> • Access, right of way, NEMSA³ compliance 	<ul style="list-style-type: none"> • Easy interconnection or access 	10%
Environmental and Social	<ul style="list-style-type: none"> • Low security incident and conflict risk • E&S considerations 	<ul style="list-style-type: none"> • Secure location • No major E&S risk 	10%
GEDSI opportunity	<ul style="list-style-type: none"> • Job and business creation (or improvement) 	<ul style="list-style-type: none"> • Creation and improvement particularly benefiting women 	Bonus 5%

The **REG Cluster Evaluation Template (Annex B)** proposes weighted criteria for assessing REG sites. The weighting of individual criteria may be adjusted to reflect the DisCo's strategic priorities. The DisCo team should use this Excel sheet to score and rank all the proposed REG clusters and shortlist 5-10 sites for further prefeasibility analyses, which are described below.

4.3 Field Validation and Stakeholder Engagement

This step involves validating the suitability of shortlisted clusters through coordinated field visits, site inspections and structured engagement with internal and external stakeholders.

³ Nigerian Electricity Management Services Agency

Field validation is critical for confirming the accuracy of desktop analysis and ensuring that local conditions support successful REG implementation. During this stage, the DisCo assesses the health of the distribution network, verifies customer profiles and demand centres, evaluates physical access and land availability, and gathers operational insights from regional teams and key customers. These findings are then used to refine the shortlist into confirmed REG clusters.

Field visits should be conducted jointly by the DisCo's technical, commercial and regional/area teams to ensure a comprehensive assessment. Key activities include:

1. **Confirm cluster and feeder boundaries**, including transformer configurations, capacities, and feasible interconnection points with the proposed REG system.
2. **Identify network constraints or bottlenecks**, such as overloaded transformers, damaged conductors, switchgear limitations or safety hazards, that may affect project viability or require upgrade.
3. **Engage large C&I and MD customers** to validate anchor loads, understand energy needs and confirm interest in participating in the REG model as premium customers.
4. **Assess land availability and ownership** status within or near the cluster for potential installation of solar PV, BESS and associated infrastructure. The survey team should also assess informal land-use considerations.
5. **Document risks**, including security concerns, accessibility challenges and community dynamics that may influence implementation.

The **REG Site Validation Checklist (Annex C)** provides detailed information on what should be collected during field visits, as well as a structured questionnaire for engaging potential premium customers.

At the end of this step, the DisCo should have:

- A **validated REG cluster map** (GIS shapefile)
- **Site Visit Reports** with photographs, coordinates and asset condition notes
- An **updated shortlist of sites** ready for prefeasibility studies

4.4 Cluster Characterisation and Pre-Feasibility Studies

This step involves conducting a technical, financial and regulatory pre-feasibility assessment of each validated REG cluster. The objective is to determine whether the cluster can support a viable REG system before the DisCo advances to full project preparation. The analyses include customer enumeration, load and network assessments, DER system design, financial modelling and regulatory due diligence.

Pre-feasibility studies include:

1. **Customer Enumeration and Load Assessment:** Determine the customer population and a load profile for the REG system. This analysis should result in a load profile for the cluster that will be the basis for system design and sizing. Activities include:
 - a. Conduct geotagged customer enumeration to determine the number, type and spatial distribution of customers within the cluster.
 - b. Collect historical energy consumption data from feeder advanced metering infrastructure (AMI) systems, energy billing data or customer meters.
 - c. Install power data loggers or extract AMI interval data from a sample of large C&I and MD customers to measure real demand patterns, peak demand and variability.
 - d. Develop daily, seasonal, and annual load profiles and estimate load growth for system design purposes.

2. **Network Assessment:** Assess the network’s health and constraints and determine upgrade requirements for the existing distribution network. This analysis should result in an updated network line diagram and a clear definition of required upgrades. Activities include:
 - a. Conduct a detailed network audit, covering transformer loading, phase balance, conductor condition, protection systems and switchgear.
 - b. Map substation reliability, feeder outage frequency and hosting capacity for embedded generation.
 - c. Assess interconnection options and grid support requirements, including whether the cluster can be isolated during grid outages.
 - d. Identify the most cost-effective network upgrades needed to deliver improved reliability.

3. **DER System Design:** Design a REG system that meets the energy demands of the cluster, while accounting for network constraints. This step provides initial system sizing, cost estimates, and system reliability projections for premium and non-premium customers. Activities include:
 - a. Conduct generation resource assessments where relevant (solar irradiance, available land, potential for rooftop PV).
 - b. Use tools such as HOMER Pro to model least-cost REG configurations, dispatch profiles and energy balance.
 - c. Evaluate system performance under different operational scenarios, including grid-available vs grid-unavailable hours.
 - d. Run sensitivity analyses on technology costs, fuel prices, outage frequency and load growth.

4. **Financial Modelling:** Build a financial model to estimate REG investment needs, potential tariffs, investment payback, developer returns, and DisCo revenue improvements. This analysis indicates whether the project is financially feasible and attractive to developers. Activities include:
 - a. Estimate CAPEX and OPEX using benchmarked industry costs.
 - b. Model expected revenues from premium and non-premium customers, based on load and tariff assumptions.
 - c. Assess developer returns, DisCo revenue improvements, and customer affordability.
 - d. Evaluate multiple tariff scenarios to ensure flexibility.

5. **Regulatory and Land Assessment:** A regulatory review is necessary to confirm feasibility under NERC and state-level requirements. The DisCo should:
 - a. Verify land availability and ownership for PV, BESS and substation upgrades.
 - b. Confirm compliance with NERC’s embedded generation, interconnection and safety standards.
 - c. Identify any environmental or social concerns that could impact implementation.

At the end of this stage, the DisCo team should produce:

- **Detailed energy audit and network assessment reports** synthesising load analysis, demand characteristics and network constraints.
- **One-page “REG Cluster Profiles” or Investment Memos** outlining:
 - Cluster map and feeder description
 - Customer mix and anchor loads
 - Load profile and DER system design

- Required network upgrades
- Estimated CAPEX (for the REG system and network upgrades), tariffs, and return on investments
- Key regulatory and E&S risks

4.5 Final Selection and Management Approval

This final step consolidates all findings and secures buy-in from DisCo management for the REG project pipeline that has passed prefeasibility studies. The management then assigns internal focal points and develops developer outreach materials for each cluster to initiate project preparation and developer procurement.

Key activities in this step include:

1. Present findings from prefeasibility studies to the DisCo's management
2. Prioritise 5-10 clusters for immediate REG development
3. Assign focal points for REG development and create a coordination team across technical and commercial departments
4. Prepare investment memos, pitch decks and developer outreach materials
5. Initiate engagement with potential developers and financiers

At the end of this step, the DisCo should have:

- Approved REG Pipeline (ranked)
- Board/Management Memo
- Investment memos or pitch decks for each cluster

The **REG Investment Memo Template (Annex D)** provides a memo template that can be used for outreach to developers and financiers.

4.6 Summary and Timeline of Selection Process

Table 2 provides a summary of the steps, objectives, outputs and timelines for the REG site selection process.

Table 2: High-level timeline of the REG site selection process.

Step	Objectives	Key Outputs	Duration
Data Collection and Screening	Gather and clean operational and customer data	Cluster dataset with key metrics	2 weeks
Cluster Prioritisation	Identify high-potential clusters based on technical and commercial criteria	Ranked cluster shortlist	2 weeks
Field Validation and Stakeholder Engagement	Validate shortlisted clusters through field visits and stakeholder input	Confirmed REG clusters	3 weeks
Cluster Characterisation and Pre-feasibility Studies	Conduct technical and financial analyses	Energy audit and network assessment reports; Investment memos	4 weeks
Final Selection and Management Approval	Approve REG pipeline	Approved REG pipeline	4 weeks

5 Roles and Responsibilities

A successful site selection process is dependent on coordination between multiple teams within the DisCo, as well as possible support from external partners. Clear delineation of roles ensures an efficient process. The responsibilities of each team are outlined below.

Team	Responsibilities
Planning or Strategy Unit	<ul style="list-style-type: none"> • Lead overall coordination of the site selection process • Oversee data collection and cluster evaluation activities • Prepare documentation and memos for management approval • Ensure REG pipeline alignment with broader DisCo PIP, and the new policy and regulatory landscape
Technical or Engineering Team	<ul style="list-style-type: none"> • Conduct all technical assessments (stakeholder engagement, energy audits, network assessments) required during field visits and prefeasibility studies • Engage subcontractors (if needed) to conduct specialised activities such as geospatial analysis and power logging
Commercial Team or Area Offices	<ul style="list-style-type: none"> • Identify potential REG clusters with strong commercial performance • Validate energy consumption and revenue data for clusters • Support the technical team with enumeration activities • Provide commercial insights on different customer types and profiles
Finance Department	<ul style="list-style-type: none"> • Oversee financial modelling and analysis as part of prefeasibility studies • Validate cost and revenue assumptions in the financial model • Ensure selected clusters meet financial viability
Regulators (NERC, SERCs⁴)	<ul style="list-style-type: none"> • Provide clarity on relevant REG regulations (licensing, interconnection, etc.) • Validate compliance of select REG clusters with federal and state regulations
Technical Assistance Providers (e.g., RMI)	<ul style="list-style-type: none"> • Provide analytical tools, templates and capacity-building to DisCo teams • Provide quality assurance to DisCo on

6 Monitoring and Evaluation

Table 3 proposes a monitoring and evaluation (M&E) framework to identify bottlenecks in the site selection process, so any challenges can be addressed before the REG pipeline is finalised. The indicators track progress across four dimensions:

- **Process:** Track whether selection activities are carried out effectively and on schedule.
- **Output:** Measure the quality of the outputs generated by the selection process.
- **Outcome:** Measure whether the site selection process is generating a high-quality project pipeline.
- **Impact:** Measure the impact of the implemented REG projects.

Table 3: Proposed monitoring and evaluation (M&E) framework for REG site selection.

Dimension	Key Indicators
Process	<ul style="list-style-type: none"> • Number of clusters with complete technical and commercial data • Number of clusters screened using the REG Cluster Evaluation tool • Number of field validation visits completed • Percentage of shortlisted clusters with full customer enumeration

⁴ State Electricity Regulatory Commission

	<ul style="list-style-type: none"> • Timeliness of internal review meetings and sign-offs
Output	<ul style="list-style-type: none"> • Number of validated REG clusters mapped and documented (site reports) • Number of prefeasibility assessments completed • Number of high-quality REG clusters identified and investment memos prepared • Number of clusters advanced for management approval
Outcome	<ul style="list-style-type: none"> • Number of clusters approved by senior management for project preparation • Share of approved clusters that progress to detailed feasibility or procurement • Developer interest (measured through EOIs or pre-RFP outreach) • Percentage of clusters with confirmed premium customer anchors
Impact	<ul style="list-style-type: none"> • Expected new REG capacity developed from REG pipeline • Expected reduction in diesel consumption among premium customers • Expected increase in DisCo energy sales and revenue from REG clusters • Expected reduction in ATC&C losses in upgraded feeders • Expected GEDSI benefits such as jobs, skills developed and productive uses of energy enabled

These indicators should be reviewed quarterly or biannually to ensure continuous monitoring of progress.

7 Risk Identification and Mitigation

There are several risks that affect the site identification and selection process. Early identification helps prevent delays, reduces developer uncertainty and ensures that only viable clusters advance to project preparation. **Table 4** lists potential risks that could be encountered during the selection process, along with recommended mitigation measures.

Table 4: Risk register for REG site selection process.

Risk	Description	Impact	Mitigation
Data Availability and Quality	Incomplete, outdated or inconsistent technical, commercial or customer data	Inaccurate cluster prioritisation or exclusion of viable sites	<ul style="list-style-type: none"> Establish a standardised REG data collection template and assign clear data owners in each business unit Conduct early validation workshops with regional and area teams to fill data gaps Use proxy values only when necessary and clearly document all assumptions Integrate data verification into routine network performance reviews
Limited Internal Coordination	Misalignment across technical, commercial, finance and planning teams on objectives or evaluation criteria	Delays in completing analyses and inconsistent scoring	<ul style="list-style-type: none"> Form a dedicated REG task team with representatives from all relevant departments Hold weekly coordination meetings during data analysis and validation phases Provide regular updates to leadership to maintain alignment and support timely decision-making
Stakeholder Resistance or Low Buy-In	Internal staff or external stakeholders may be sceptical of the REG model or concerned about loss of feeder control	Reduced cooperation, slow approvals and weak ownership of the selection process	<ul style="list-style-type: none"> Communicate the operational and commercial benefits of REG clearly to internal teams Showcase examples from other DisCos and pilots Engage leadership early and maintain transparent updates throughout the selection process to build confidence and ownership
Customer Reluctance or Misinformation	Customers may be uncertain about tariff implications or distrust new service arrangements	Weak premium-customer participation, weak revenue base, and unreliable demand forecasts	<ul style="list-style-type: none"> Develop clear customer information briefs that explain expected improvements in reliability, metering transparency and tariffs Engage major C&I customers early to understand their needs, validate load anchors and gauge willingness to participate through Letters of Intent (LOIs)
Network Constraints	Feeder infrastructure may be severely degraded, overloaded or unsafe	Significant upgrade costs and reduced technical feasibility	<ul style="list-style-type: none"> Conduct early network assessments to identify severe constraints and eliminate technically unsuitable clusters Prioritise clusters requiring moderate upgrade investment Develop phased upgrade plans where improvements unlock wider network benefits
Land and Permitting Constraints	Difficulty identifying or securing land for REG plants or network upgrades	Project delays or inability to construct the REG system	<ul style="list-style-type: none"> Prioritise clusters with existing DisCo-owned or government land Engage local authorities early to secure land access and resolve potential disputes Conduct high-level land screening and stakeholder engagement during field validation to avoid delays at the preparation stage
Regulatory Uncertainty or Delay	Approvals related to licensing, ICA arrangements, or	Extended project timelines and developer hesitation	<ul style="list-style-type: none"> Maintain early and ongoing communication with NERC and SERCs to clarify documentation requirements

	interconnection may be unclear or slow		<ul style="list-style-type: none"> • Use RMI's REG legal/regulatory guidance note to anticipate approval steps and dependencies • Prioritise clusters where interconnection and licensing pathways are straightforward
Capacity Constraints within the DisCo	Limited in-house expertise in load modelling, GIS, DER system design or financial analysis	Incomplete feasibility assessments and over-reliance on external consultants	<ul style="list-style-type: none"> • Provide targeted training on REG analysis tools (financial model, cluster prioritisation template, HOMER) • Pair internal staff with technical assistance providers for on-the-job capacity building • Establish internal knowledge management systems for DER projects
Inaccurate Cost or Revenue Estimates	Over- or under-estimation of network upgrade needs, consumption or tariff recovery potential	Projects appear more or less viable than they are in reality	<ul style="list-style-type: none"> • Cross-check cost assumptions using the RMI benchmark cost database • Validate energy demand and consumption data through data logging and field surveys • Conduct sensitivity analyses on major variables such as tariffs and grid outages
State-Level Policy Misalignment	Differences between federal and emerging state regulatory regimes may create uncertainty	Misalignment with state electrification plans or tariff frameworks	<ul style="list-style-type: none"> • Track state-level policy changes closely and ensure cluster selection aligns with new state regulations • Engage SERCs early to confirm compliance requirements
Developer Market Limitations	Limited number of capable REG developers, especially for small or dispersed clusters	Low competition and weaker pricing outcomes during procurement	<ul style="list-style-type: none"> • Conduct outreach activities before procurement to gauge developer interest • Prepare strong, standardised REG investment memos to attract developers • Consider bundling smaller clusters to improve scale and bankability
Security and Community Risks	Risks of vandalism, theft or restricted site access in certain areas	Threats to project infrastructure, staff safety and long-term operations	<ul style="list-style-type: none"> • Carry out security assessments during field validation • Engage community leaders and local security agencies early • Prioritise clusters with manageable security profiles and clear community acceptance
GEDSI Risks	Exclusion of women, youth and people with disabilities from consultation, jobs and benefits, while potentially increasing land-use conflicts and exposure to GBV and safety concerns	Undermine social cohesion, community trust and overall project sustainability	<ul style="list-style-type: none"> • Apply inclusive stakeholder engagement, transparent land and benefit-sharing processes, and set targets for local hiring and skills development for women and youth • Strengthen contractor codes of conduct, GBV prevention measures and accessible grievance mechanisms, and design projects to improve local energy access and community benefits

8 Annexes

The links below will download the following annexes.

Annex	Tool
A	REG Data Collection Template
B	REG Cluster Evaluation Template
C	REG Field Validation Checklist
D	REG Investment Memo Template