

Rural Electrification Agency Operational Manual

prepared for the

**Power Sector Reform Team
Bureau of Public Enterprises
Federal Government of Nigeria**

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List of Abbreviations and Definitions

Organisations, Programs and REF-specific Terms

CBO	Community-based organization
ECN	Energy Commission of Nigeria
EPSRA	Electric Power Sector Reform Act (2005)
FGN	Federal Government of Nigeria
FMPS	Federal Ministry of Power and Steel
MARD	Ministry of Agriculture and Rural Development
NEPA	National Electric Power Authority
NERC	Nigerian Electricity Regulatory Commission
NGO	Non-governmental organisation
REA	Rural Electrification Agency
REB	Rural Electrification Board
REF	Rural Electrification Fund
TA	Trust Agent

Electrification Terms

LV	Low Voltage (230/400 V)
MV	Medium Voltage (1 kV to 33 kV)
PV	Photovoltaic (solar power technology)
RE	Rural Electrification

Definitions

Promoter	Entity (utility, private entrepreneur or CBO) that invests in infrastructure- projects and companies
National connection rate	percentage of national households that are provided with an electricity service
National electrification coverage	percentage of national households living in electrified communities (service areas)
National electrification rate	the percentage of national communities that are electrified

1 Overview of the Rural Electrification Agency

1.1 Legal Status of REA

The Rural Electrification Agency (REA) shall be established, as per the Electric Power Sector Reform Act (EPSRA), by the Minister of the Federal Ministry of Power and Steel (FMPS) as an autonomous agency referring to the Rural Electrification Board (REB) as its Board. The REA will be established as a corporate body and subject to applicable laws.

1.2 Functions and Responsibilities of the REA

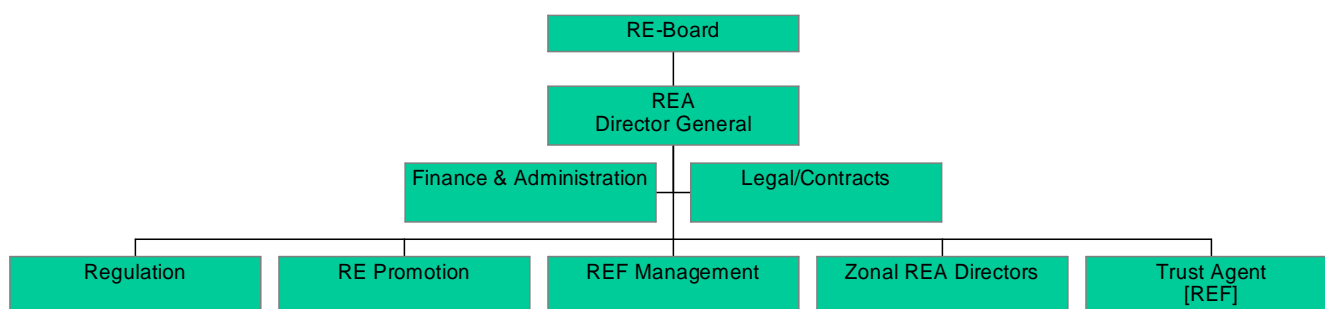
The Rural Electrification Agency shall be established as an independent and accountable agency, responsible for the coordination and promotion of rural electrification (RE) activities in Nigeria.

In accordance with EPSRA, The President will appoint, on the recommendation of the Minister of Power and Steel, the Chairman, Vice-Chairman and members of the Agency, and approve its corporate governance arrangements. The REA shall report to the Rural Electrification Board, described below. The REA will maintain a head office in Abuja, and six Zonal offices.

The REA will serve three complementary functions, namely, implementing the Rural Electrification Fund, regulating RE projects, and serving as an agency to promote rural electrification. Each functional branch will have its own Director, serving at the Central REA. In addition, Zonal REA offices will be comprised of staff from all three functional areas. Each of the three functions is described below, while more details about their staffing composition and operating procedures are presented in subsequent sections.

1.3 Institutional Structure of the REA

The chart below illustrates the structure of the Rural Electrification Agency. The roles and responsibilities of each segment of the organization are summarized in the sections that follow.



1.3.1 Rural Electrification Board

The Rural Electrification Board is a part-time Board, whose members shall be recommended by the Minister and appointed by the President. The Board shall report to the Minister and shall be comprised of representatives of the six geo-political zones and one other. The seventh member shall be the Director General of the REA. The FMPS will provide guidance on the range of qualifications that should be represented by members of the REB. The Board will be designed to ensure autonomy, transparency, and accountability as it oversees the REA and its activities. A more detailed discussion of the REB is presented in Section 2.

1.3.2 REA Office of the Director General

The Director General (DG) of the REA shall report to the REB. The DG shall conduct a range of tasks associated with each of the REA's three primary functions, and manage the departmental Directors, as well as the Zonal Directors (the staff of whom are detailed in subsequent sections). The office of the Director General shall consist of the following staff:

- Director General¹
- Administrative Assistant to the Director General

1.3.3 Legal/Contracts Unit

The Legal/Contracts Unit shall be responsible for all legal matters involved in the REA's operations. In addition, the Unit shall design and review all standard contracts with RE project promoter selected for REF subsidies. This Unit shall also handle any legal or contractual disputes between promoters and customers, not resolved at the local or Zonal level. In its dual role of legal and contract authority, the Legal/Contracts Unit shall report to the DG and the REF Management team. The Legal/Contracts Unit shall consist of the following staff:

- Legal/Contracts Advisor²
- Legal Assistants (2)

1.3.4 Finance & Administration Unit

The Finance & Administration Unit will be responsible for the internal finances of the REA (e.g. payroll, billing), as well as administrative issues. The Finance & Administration Unit shall consist of the following staff:

- Administrator/Accountant³
- Human Resources/Personnel Specialist⁴
- Secretary, administrative assistant to the legal advisor and to the accountant

¹ See Annex I.1 for job description and qualification profile

² See Annex I.2 for job description and qualification profile

³ See Annex I.3 for job description and qualification profile

⁴ See Annex I.4 for job description and qualification profile

- Receptionist, for entire Central REA office

1.3.5 REF Trust Agent

A Trust Agent shall be contracted to disburse REF subsidy payments against project milestones, as directed by the Director General, on the recommendation of the REF Management team. The Trust Agent shall be a reputable financial entity with offices throughout Nigeria. The Trust Agent shall be supervised by and report to the REB and be subject to external auditing.

1.3.6 REA Auditor

An external auditor shall be appointed to conduct an annual audit of the REA, the REF, and the Trust Agent. The auditor shall report officially to the Minister of FMPS but shall present his observations as well to the REB.

1.3.7 Rural Electrification Fund Management

The REA shall establish and administer the Rural Electrification Fund (REF) to provide capital subsidies, in a clear and transparent competitive process, to qualified rural electrification schemes developed by public and private sector entities. The objectives of the REF will be to promote grid and off-grid rural electrification; encourage innovative commercial arrangements; maximize the economic, social and environmental benefits of rural electrification subsidies; and achieve regional parity with regards to access to electricity.

The REF Management team will be responsible for developing policy guidelines and procedures for administering the Fund, which include:

- Criteria for subsidy award;
- Transparent procedures for bidding; and
- Accountability instruments, such as independent audit, effective monitoring and reporting procedures, etc.

The details of the REF Management unit are presented in Section 3.

1.3.8 REA Regulatory Structure

The REA shall undertake certain regulatory functions deemed necessary to balance consumer and provider protection with the desire to attract potential suppliers. Regulation of rural electrification projects will include provisions to ensure:

- Minimum safety and technical standards;
- Quality of service;
- Protection and proper use of the network equipment;
- Adherence to and payment of agreed upon tariffs; and
- Contract enforcement and dispute resolution in the event that either party violates the above principles.

The REA shall undertake certain regulatory functions that reflect a light-handed approach to economic regulation, but a strong active role in protecting and balancing the rights of consumers and providers. The details of the REA Regulatory Structure are presented in Section 4.

1.3.9 RE Promotion

The third functional arm of the REA shall promote rural electrification throughout Nigeria. The RE Promotion unit shall serve as an information clearinghouse and public outreach body. It shall be responsible for collecting and maintaining information on rural electrification, including existing and planned projects, renewable resources, rural load, and technological innovations for cost-effective power supply. Providing this service will be critical for encouraging and coordinating rural electrification activities led by communities, investors, Discos, State Governments, and others. The details of the RE Promotion unit are presented in Section 5.

1.3.10 Zonal REAs

Given the decentralized nature of rural electrification, the REA will maintain Zonal offices responsible for implementing the policies set at the Central level. This will include, for the RE Fund, reviewing projects and recommending those to receive funding, as well as carrying out any regulatory functions assigned to the REA, and collecting and providing information on RE activities and renewable resources for the RE Promotion unit. The details of the Zonal REA offices are presented in Section 6.

1.4 Allocation of Responsibilities

The figure below illustrates, in brief, the various RE-related responsibilities assigned to the components of the REA, REB and the FMPS. A more detailed discussion of the REA's role relative to other parties active in rural electrification is presented in Section 7.

Allocation of Institutional Responsibilities for the Development of the RE Sub-Sector among the REA and Other Relevant Agencies

Minister, FMPS	<i>Nominates</i>	the members of the Board
	<i>Authorizes</i>	Conventions with donors for REF funding prepared by REA
	<i>Approves</i>	the RE-Strategy & annual status report for presentation to Cabinet and Parliament
		the statutes of the REF and of REA the annual budget of REA the auditor for use of REF funds by Trust Agent
RE-Board	<i>Defines</i>	Eligibility Criteria for grant support and fixes annual subsidy rates Division of REF funds among REA operation, investment subsidies, programs
		Procedures for: - Evaluation of projects and processing of applications for REF-funding - Forms for Project Presentation & Funding Application documents

		<ul style="list-style-type: none"> - Tendering of programs and consulting jobs with outside suppliers & contracting - Grants allocation (payments) - REF administration through a Trust Agent - REA administration
		Proposals for Amendments to RE Policy and Strategy for FMPS
	<i>Approves</i>	Grant allocation to projects
		Annual operating budget of the REA and annual work program
		Organization and structure of REA
		REA contracts above a threshold with outside suppliers and collaborating agencies
		REA Director
	<i>Contracts</i>	REF Trust (Payments) Agent
		REA/REF Auditor
	<i>Supervises</i>	REA operation
		Trust Agent administration of REF-payments
		Prepares draft amendments to RE policy for approval by Minister of FMPS
		Prepares and publishes annual report on status of RE-plan fulfilment
		Prepares annual budget proposals for use of REF funds for REB approval
REA	<i>Tasks</i>	Prepares and publicizes RE database on projects, costs and socio-economic conditions
		Processes REF-funding applications for approval by REB
		Answers requests from potential investors and public for information on RE-project issues
		Organizes RE-awareness campaigns, collaborating with State Governments, State Electricity Boards and others
		Organizes outreach activities to get feedback from rural population, collaborating with civil society and others
		Coordinates REF-subsidy policy
		Seeks RE regulatory advice from NERC
		Conducts regulatory interventions as per the Central REA's policies and procedures
Zonal REAs	<i>Tasks</i>	Conducts outreach activities designed by the Central REA to promote awareness of the REA and its activities
		Conducts initial review of applications for REF funding
		Conducts monitoring & evaluation of RE-program progress and impact
		Disburses REF-payments
Trust Agent(TA)		Monitors implementation progress of funded projects and prepares progress reports
	<i>Tasks</i>	Submits periodic financial reports to the REB
		Sends payments reports to REA for use in database
FMPS		Processes licence applications
		Awards licenses to operators
		Maintains and develops technical and service quality standards
Auditor	<i>Supervises</i>	The use and administration of REF and REA and prepares annual audit reports

1.5 REA's Reporting Requirements

The Rural Electrification Agency, on such a date each year as may be specified by the Minister, shall submit to the Minister an annual audited statement of accounts of the Rural Electrification Fund.

The accounts shall be reviewed by auditors appointed by the Rural Electrification Agency with the approval of the Auditor General of the Federation.

The Board shall also conduct an annual review of the REA and REF, to be attended by other stakeholders including representatives of: Ministry of Agriculture and Rural Development (MARD); State Governments; Energy Commission of Nigeria (ECN); NEPA or its successors; the private electrical contracting and consulting sector; civil society; the banking sector; and the Nigerian Electricity Regulatory Commission (NERC).

1.6 REA Budget

The REA shall derive its annual budget from the Federal Government budget. Budget funds shall be used for the following purposes:

1. To cover the operational cost of managing the REA, which is comprised of four items:
 - (i) REA's annual cost of operation;
 - (ii) Fees paid, if any, to members of the REB for participation in board meetings;
 - (iii) The annual cost of the contract with the Trust Agent, who administers the REF payments to projects approved by the REB; and
 - (iv) The annual cost of the contract with the auditor.
2. To finance RE support programs, sub-contracts made by the REA with outside institutions for capacity building, technical assistance and information activities.

An indicative budget for the first year of operations for the REA is presented in Section 9.

1.7 Institutional Development

It is expected that as increasingly more RE schemes are proposed, and the scope of the REA's work grows – in terms of promotion, regulation, and granting subsidy awards – the Agency itself will have to grow and change. Two positions have been proposed to assist in maximizing the effectiveness of the REA. Both the RE Promotion and the REF Management units will have Institutional Development Specialists on staff to assess the Agency's performance and requirements for improving such. One critical factor the Institutional Development Specialists will be evaluating is the staffing levels and the human resources available within the REA.

Particularly at the beginning, training and capacity building will be critical to establishing an effective REA. Section 8 outlines the principles for training and capacity building within the REA. In a subsequent report, more details shall be provided. It is important to note that the staffing levels and budget proposed in this Manual reflect the estimated initial needs of the REA. As the Agency expands, in response to growth within the RE sector, the staffing levels and budget may need to be revised.

2 The Rural Electrification Board

The Rural Electrification Board shall oversee the REA, providing guidance on and final approval of the Agency's activities.

2.1 Composition of the Board

The Rural Electrification Board Members shall be recommended by the Federal Minister of Power and Steel and appointed by the President. The REB shall report to the Minister of Power and Steel. According to EPSRA, the Board shall be comprised of seven members, including representatives of each of the six geo-political zones. The REA Director General shall be the seventh member. The composition of the REB shall reflect the integrated nature of rural development and diversity of Nigeria's rural population. The Board shall be designed to ensure autonomy, transparency, and accountability as it oversees the REA and its activities.

2.2 Functions and Responsibilities of the Board

The functions and responsibilities of the REB shall include:

- To be the Board of the REA and to develop regulations and guidelines for its operation;
- To be the Board of the REF;
- To decide on policies and procedures for the optimal allocation and use of REF subsidies; and
- To approve allocations of REF subsidies for selected rural electrification projects.

Tasks related to the Board's function regarding the REA, generally, shall be:

1. To approve procedures and guidelines for:
 - Evaluating projects and processing applications for REF subsidies
 - Disbursement of subsidy funds
 - REF administration through a Trust Agent
2. To approve the:
 - Organizational structure and internal work procedures of the REA
 - Annual work program of the REA
 - Annual operational budget of the REA
 - Annual accounts of the REA
 - Draft annual RE Status Report and Draft RE Strategies and Policies for submission to FMPS

3. Recruitment, performance management and contracting of the:
 - Director General of REA
 - Trust Agent
4. To oversee and monitor:
 - REA operations
 - The impact of the REF
 - Payment procedures
5. To define benchmarks and agree performance indicators for monitoring the management and operational performance of the REA.

Tasks related to the Board's function regarding the REF shall be to:

- Decide the division of the annual REF budget between Zones (i) for investment subsidies, (ii) for support programs, and (iii) for REA operational expenses;
- Refine the eligibility criteria for REF grant support and the REF subsidy rates that are fixed for each financial year in the RE Status Report;
- Approve the implementation of proposed RE support programs funded by the REF and sign contracts with the institutions that execute these programs; and
- Supervise the Trust Agent's administration of REF payments.

2.3 Procedures

The REB shall schedule its meetings according to the needs imposed by project applications and other conditions that require decision taking by the REB.

The Director General of the REA shall participate in REB meetings as a board member.

The REB shall determine the procedures for the approval of applications for funding from project promoters. Copies of project applications and approval decisions shall be presented at REB meetings for final review and approval.

Non-government REB members, if any, shall be paid a sitting allowance and expenses for attendance at meetings. The Minister of FMPS shall approve the allowance schedule for the following year as part of his acceptance of the RE-Status Report. The report shall contain the budget for REF operations for the next year. Government representatives on the REB shall not receive allowances from the REF budget for REB-related matters.

2.4 *Annual review*

The Board shall conduct an annual review of progress in rural electrification. The review shall be open to representatives of a range of stakeholders, including other government departments, consumers, community groups, the private sector, and financial institutions. Specifically, the following shall be invited:

- Minister/Permanent Secretary of the FMPS,
- Representatives of the Ministry of Agriculture and Rural Development,
- Representatives of the private sector,
- Representatives of civil society,
- Representatives of the banking sector,
- Representatives of NERC, and
- Representatives of all six geo-political zones.

3 The Rural Electrification Fund (REF)

In accordance with Section 89 of the Electric Power Sector Reform Act, “the REA shall set up and administer a fund under the name of the Rural Electrification Fund to be used...to promote, support and provide rural electrification programmes through public and private sector provision in order to:

- a. Achieve more equitable regional access to electricity,
- b. Maximize the economic, social and environmental benefits of rural electrification subsidies,
- c. Promote expansion of the grid and development of off-grid electrification, and
- d. Stimulate innovative approaches to Rural Electrification provided that no part of the Rural Electrification Fund shall be used as subsidies for consumption.”

3.1 Objectives of the REF

The objectives of REF subsidy support is to assist rural electrification, and by extension rural development, through targeted use of capital subsidies. The broad range of objectives shall be to:

- Promote agricultural, industrial, commercial, and other economic and social activities in rural areas;
- Raise the living standards of rural populations through improved water supply, lighting and the use of domestic electrical appliances to reduce the drudgery of household tasks typically allocated to women;
- Substitute more expensive sources of energy such as candles and kerosene in favour of more cost-effective and environmentally sustainable sources of lighting and electricity;
- Assist in reducing migration from rural to urban areas; and
- Protect the nation’s health and environment by reducing indoor pollution and other energy-related environmental problems.

Based on the above, the criteria for REF subsidy awards shall be designed to:

- Ensure maximum productive access from available subsidy funds;
- Maximise the social benefits from indirect access, that is, to spread the social benefits of electrification to the poorer strata of the local population that cannot otherwise afford grid connection or other forms of rural electrification; and
- Promote regional equity on an objective basis.

3.2 *Composition of Staff*

The REF Management unit shall require, at a minimum, the following core staff:

- Director, REF Management unit⁵
- Finance Specialist⁶
- Engineer (specialist in RE design and evaluation)⁷
- Economics/Finance Specialist
- Institutional Development Specialist (with expertise in social development, M&E for internal and external monitoring of performance indicators)⁸
- Lawyer (shared with the Director General's office)
- Administrative Assistants (3)

3.3 *Functions and Responsibilities of the REF Management Department*

The Rural Electrification Fund Management unit of REA shall retain responsibility for the following:

- 1) With regards to the RE subsidy scheme:
 - Developing application forms, conditions and procedures;
 - Setting the allowable limits for subsidy;
 - Developing project criteria for ranking and scoring;
 - Review applications recommended by the Zonal REAs;
 - Audit the Zonal operations;
 - Oversee the Trust Agent;
 - Set disbursement schedule and instructions for the Trust Agent;
 - Monitor and evaluate the REF-funded projects;
 - Compile Zonal-level data on projects, to be used for RE Promotion;
 - Recommend changes to the funding process; and
 - Address contract disputes and problems.
- 2) Monitoring the cost-effectiveness of subsidy approaches used by REF;
- 3) Estimating what level of capital subsidy can balance the demand for and the supply of subsidy funds and pass the recommendation to REB in the annual report;

⁵ See Annex I.5 for job description and qualification profile

⁶ See Annex I.6 for job description and qualification profile

⁷ See Annex I.7 for job description and qualification profile

⁸ See Annex I.8 for job description and qualification profile

- 4) Promoting the supply of financial services and project finance options for RE-projects;
- 5) Developing a common understanding with NGO- and other donor-financed schemes on RE subsidy policies and eligibility criteria; and
- 6) Submitting quarterly and annual reports to the board.

3.4 Source of Funds

3.4.1 Power Sector

According to Part IX, section 88 (12) of EPSRA, the Fund shall consist of the following capital and assets:

- a. “Any surplus appropriated pursuant to section 53 (funds surplus to the requirements of the NERC), with approval of the National Assembly may be transferred;
- b. Any fines obtained by the Commission (NERC) pursuant to the Act;
- c. Any donations, gifts, grants and loans made by international agencies, State Governments, the Federal Government, local communities, businesses or any other entity;
- d. The contribution that may be made pursuant to section 90⁹ and interest and other benefits accrued to the Rural Electrification Fund;
- e. And monies appropriated by the National Assembly; and
- f. Such percentages of the annual turnover of the licensee’s as may be determined by NERC.”

It is expected that the funds derived from power market participants and consumers will grow rapidly as sales in the interconnected grid increase in response to system improvements and expansion in generating capacity.

3.4.2 Other Sources of Funding for RE Projects

It is also envisioned that the REF may facilitate funding of RE projects characterized by the following:

- Funds provided by the Government and donors to the REF bank account that finance projects and activities identified in the Government’s RE program;
- Funds provided by donors to specific RE projects identified in the RE program and for which a project specific account is established for the donor into which his funds are channelled directly; and

⁹ In addition, to the extent required by the Rural Electrification Strategy and Plan and to cover any shortfall in the capital and assets of the Rural Electrification Fund, the Commission may determine the contribution rates to be sent to the Rural Electrification Fund by: a) Eligible Customers; and b) Licensees, as may be determined by the Commission.

- Funds provided by donors to RE projects, which would have been a part of the RE program except for programming or other procedural reasons of the donor.

The department will keep in close dialogue with the financial sector in Nigeria, including micro-finance institutions, to identify ways to optimize the combination of REF subsidy funds and the financial products and services which the financial sector offers investors in RE projects.

3.5 Subsidy Support for Selected RE Projects

The REF shall provide performance-based subsidies for capital investments in RE projects on a competitive basis. The funds of the REF shall be used to provide investment subsidies to project promoters of rural electrification projects approved by the REB, and for no other purpose.

The subsidy approval process shall be transparent and administratively simple for project promoters and for the REA. The REA shall publish at the beginning of each financial year the fixed subsidy rates. Project promoters may develop their RE schemes knowing what their subsidy entitlements shall be, if selected for funding.

The rates in the subsidy schedule shall be fixed at a level that is expected to balance supply and demand for funds. It is envisioned that subsidy rates should cover roughly 40 percent of a project's capital costs. A higher level might be necessary initially to encourage applications and the level may need to be different in different zones, depending on the viability of such investments. The REA shall review the cost data presented here, refine the appropriate subsidy levels as more data is collected, and determine whether or not subsidy rates should be held constant across Zones.

Item	Unit	Cost in US\$
MV line	1 – 33 kV	5400/km
Transformer	5 – 25 kVA	2000 each
	25 – 50 kVA	2300 each
	50 – 100 kVA	2700 each
	230/400 V	3500/km
LV line		
Renewable generators (micro hydro, biomass)		300 / kW
Fossil fuel generators		35 per kW
Connections	Households	75 each
	Schools, clinics	200 each
	Public Lighting	50 each

a) MV and LV voltages refer to phase-ground (PG) voltages. PG= (Phase-Phase Voltage) / $\sqrt{3}$. b) Subsidies calculated from standard grid prices. c) Wind, biomass and other renewable energy generation are eligible for hydro subsidy. d) Other fossil fuel generation (petrol, coal, gas, etc.) are eligible for diesel generation subsidy.

3.6 Priorities in REF Subsidy Allocation

Both EPSRA and the RE Policy state the principles according to which the REA shall allocate REF subsidy support. Using the general concepts outlined already as a starting point, the REA shall develop specific criteria for project evaluation and selection.

The Federal Government of Nigeria's Rural Electrification Policy lists the key elements for REF subsidy support as:

- The extent to which the proposed activity can demonstrate technical, economic and financial viability for a sustained period;
- The extent to which the proposed activity demonstrates support for rural development, taking into account the priorities of the local communities;
- The level of community and investor commitment to the proposed activity; and
- Other objective criteria that the Rural Electrification Agency may determine, such as tariff levels and quality of service.

The selection decisions will therefore be based on the extent to which the RE projects proposed reflect the above principles.

3.6.1 Classification of Rural RE Projects

The REF's role is to accelerate the electrification of rural areas. It is believed that during the first years of operation the distribution companies (Discos) resulting from the unbundling of NEPA are likely to prioritize rehabilitation of the existing system and minimal expansion to "fill-in" easily connected gaps in their license area. Furthermore, when the Discos are ready to expand their service area, it is expected that they will focus initially on peri-urban areas. It is anticipated that such areas could be connected to the grid without subsidy support. As a result, the REF will aim to stimulate rural electrification in those rural areas that are unlikely to be served by the Discos in the near term.

Within rural areas, priority for allocation of REF support shall be given to areas characterized by higher population and demand density, particularly along "economic corridors" outside the areas where the Discos have connection and supply agreements.

The above classification shall be used to target the use of REF investment subsidies to projects where subsidization will have most impact in terms of increased economic activity.

3.7 Application Requirements and Evaluation Criteria

The REA shall develop a detailed list of criteria and a relevant scoring system to rank eligible RE project applications. At a minimum, the evaluation criteria for the approval of a subsidy application shall include the following:

- 1) Satisfaction of formal requirements:
 - That the project applicant is a legal person;
 - That the investment items for which support is being asked are eligible for support according to the published conditions;
 - That all application forms have been properly fulfilled, (See Application Form included in Appendix); and
 - That copies of the feasibility study and of the business plan are attached.
- 2) Compliance with regulatory conditions:
 - That all needed local planning approvals have been obtained;
 - That an Environmental Impact Assessment (EIA), if required, has been performed; and
 - That the FMPS has issued a license for the project, or, as a minimum, if the license application is still being processed, that the FMPS has issued acknowledgement of receipt of the application for the license. (No payments shall be authorized until the license has been granted.)
- 3) Compliance with technical conditions:
 - That the minimum technical standards are fulfilled in the feasibility study (a criterion for the license and subject to inspection by the FMPS); and
 - That the cost of individual major investment items seem to be in line with the level of local costs according to the database maintain by the REA.
- 4) Financial viability of the project
 - That there is strong evidence of financial closure;
 - That any debt finance for the project has been secured (copies of the draft loan agreement and the bank's project appraisal document are attached), if applicable;
 - That, where possible, low cost RE options have been utilized in the project design; and
 - That the REF's evaluation confirms the bank's assessment of financial viability and ability of the project's cash flow in early years to service the debt payments, if applicable.
- 5) Institutional viability of the project
 - Projects must demonstrate local community support; and
 - Sponsors initiating RE projects must establish a legally recognisable entity (such as a co-operative or a company) in order to qualify for grant awards.

3.8 Processing of Applications

Twice per year the REA shall review applications for REF subsidies. A call for project applications shall be issued in several nationwide press/media releases, including major newspapers.

Once the submission deadline has passed, applications shall be compiled for the evaluation panel, comprised of key members of the Zonal REA staff. The review of applications shall be conducted by the Zonal and Central level REA staff according to the following process:

The Zonal REAs shall:

- (i) Verify that applications fulfil the formal requirements imposed by the instructions for the application, (see the draft Application Form included in the Appendix);
- (ii) Verify that eligibility criteria are fulfilled, including the license conditions;
- (iii) Check the investment cost figures against benchmarking figures and determine whether the costs seem in proportion;
- (iv) Calculate each eligible project's subsidy entitlement, if selected for award;
- (v) Score and rank the batch of eligible applications and forward them, along with the recommended prioritisation and a short information note, to the Central REA for review and selection at the next REB meeting; and
- (vi) Draft the contracts for the projects selected by the REB for subsidy funding and forward them for review by the Central REA's Legal/Contracts Advisor.

The Federal REA office shall:

- (i) Check the applications from the Zonal REAs and review the prioritised list and recommendations for funding from each Zone;
- (ii) Once approved by the Board, complete REF subsidy contracts and forward three copies (signed by the Director General) to the relevant project promoters for signature;
- (iii) Upon receipt of two signed copies of the contract from the applicants, the Director General shall forward one copy to the REF Trust Agent together with an authorization for the processing of payments according to the schedule established in each contract; and
- (iv) Within the REA, the Director of the REF Management unit shall follow up on the processing of applications and ensure that all required information about the funded projects are passed on to the RE Promotion unit for inclusion in the RE database.

3.8.1 Notification

Project applicants shall be informed within ten business days after the receipt of the application by REA whether the application complies with the eligibility criteria and will be considered by the evaluation panel. Project applicants will be informed of the status of their application within ten days of the Director General's official selection of projects for funding.

Project applications not selected for subsidy funding may re-apply during subsequent evaluation rounds.

3.9 Disbursement of REF Funds

Disbursement of investment subsidies shall be made against project development milestones, agreed upon in the Promoter Contract, in accordance the output-based aid principles.

Disbursements from the REF shall be ordered by the REA Director General after the REB given its approval. Payments shall be conditional on outputs (such as construction milestones or connections) and satisfactory completion of reporting requirements, as determined by the Director General, in consultation with the appropriate Zonal Director.

Any payments that are made in error, or payments for which the prior requirements prove not to have been met, will be the subject of stringent recovery procedures.

3.9.1 Trust Agent

The REA shall contract a Trust Agent to disburse REF subsidy payments against project milestones, as directed by the REA Director General. The Trust Agent shall be a reputable financial entity with offices throughout Nigeria.

The REF Trust Agent shall be responsible for:

- Timely disbursement of payments to projects according to the milestones and documentation established;
- Limited monitoring of timely and satisfactory implementation progress;
- Follow-up monitoring in collaboration with the REA to verify the quality of components;
- Preparing quarterly and annual reports for the REB on the status of disbursements; and
- Reporting to the REA any observations on technical issues that have been noted and to the REF Management unit any particular financing issues that may need attention.

The REA shall determine the appropriate payment arrangements for compensating the Trust Agent. The fees paid to the TA could be set either as a fixed annual amount (in Naira or percentage terms), a fee per project (where fees could be established for two or three different project sizes – as is the case in the indicative budget for the REA, outlined in Section 9), or the could be based on agreed costs of the Trust Agent.

The Trust Agent will be supervised by and report to the REB and be subject to external auditing.

3.10 Monitoring and Evaluation of REF-Funded RE Projects

In order to ensure proper use of REF moneys, RE projects will be required to submit certain information to the REA on a regular basis. In addition, Zonal REA offices may conduct random inspections of REF-funded projects to monitor project development. Several tools have been developed for the REA to collect and report relevant information on project development. They are included in the Appendix to this Manual, and should be reviewed and revised, as needed, by the REA once it is established. The information collected through the use of these forms shall be fed to the RE Promotion unit of the REA for inclusion in the RE database.

3.11 REF Budget

The annual budget for the REF, that is, the funds available for disbursement to RE schemes, shall be dependent on the sources of fund, outlined above. This shall remain administratively separate from the budget to operate the REF Management unit itself, which shall be included in the overall REA budget.

Based on the available funds, the allocation of annual REF funds shall be fixed in the annual RE Status Report, which shall be approved by the Minister of FMPS and submitted to Cabinet.

3.12 REF Auditor

An Auditor shall be appointed to conduct the annual auditing of the REA, the REF and of the Trust Agent. The Auditor shall report officially to the Minister of FMPS but shall present its observations as well to the REB.

3.13 Annual Review of REF Operations and Procedures

The REB shall approve the annual RE Status Report prepared by the REA for submission to the Minister of Power and Steel. Regarding the REF activities, the Report shall define the policies for subsidy levels, project eligibility criteria and application processing and other procedures based on proposals made by the REF Management unit.

The REA shall publish at the beginning of every financial year (i) the eligibility criteria for REF subsidy support and (ii) the schedule of subsidy rates approved for the financial year by the REB and the Minister of FMPS.

Each year the REF Management unit shall review and revise, if necessary, the following:

- REF standard application forms;
- Instructions to applicants on procedures for how to apply, how to fill out the application forms and the required accompanying documentation;

- Standard contracts for the convention signed between REA and the subsidy applicant (project promoter) spelling out the rights and obligations for obtaining the approved subsidy (See Appendix for the Promoter Contract developed for REA consideration);
- Standard reporting forms to monitor and evaluate the progress in project development (See Appendix for draft M&E forms developed for REA consideration); and
- As part of the RE Status Report, provide annual recommendations to the REB on (i) criteria for selection of projects and programs and (ii) the subsidy rates to be used the next year.

4 REA Regulatory Structure

The REA shall undertake certain regulatory functions that reflect a light-handed approach to economic regulation, but a strong active role in protecting and balancing the rights of consumers and providers. Regulation of rural electrification projects by the REA shall include, as per the RE Policy, provisions to ensure:

- Minimum safety and technical standards;
- Quality of service;
- Protection and proper use of the network equipment;
- Adherence to and payment of agreed upon tariffs;
- Monitoring and assisting enforcement of license conditions;
- Adequate Consumer Protection Code; and
- Contract enforcement and dispute resolution in the case of non-compliance.

Given the decentralized nature of rural electrification, the REA shall emphasize local implementation of centrally developed regulatory policies and requirements. As the REA moves into the implementation stage, its roles and responsibilities regarding the regulation of RE schemes shall be further refined.

4.1 *Composition of staff*

The initial REA Regulatory Structure shall be fairly small and efficient, expanding as duties and activities dictate. Policy direction shall come from the Central office, while the Zonal offices shall be charged with implementation, and monitoring and enforcement activities. (The staff of the Zonal offices are listed in Section 6.)

Central REA:

- Director, REA Regulatory Structure¹⁰
- Attorney/Regulatory Advisor¹¹
- Legal Assistants (3)
- Senior Engineer (specialized in power, safety, mechanical or electrical engineering)¹²
- Monitoring Analysts-Database Assistants (2)
- Administrative Assistants (3)

¹⁰ See Annex I.9 for job description and qualification profile

¹¹ See Annex I.10 for job description and qualification profile

¹² See Annex I.11 for job description and qualification profile

4.2 Functions and Responsibilities of the REA Regulatory Structure

4.2.1 Central REA

The Central REA shall be responsible for the following:

- Development of audit and enforcement policy;
- Analysis of sector direction and performance;
- Interaction with NEPA, NERC, and other relevant sector institutions;
- Conformity of regulatory regime with competition laws, reliability and other regimes;
- Development of regulatory rules/procedures;
- Conduct of major generic inquiries at Zonal's request;
- Oversight and ability to audit Zonal's regulatory and educational programs;
- Development of basic capacity-building tools; and
- Powers to intervene selectively at Zonal/local levels.

4.2.2 Zonal REAs

The Zonal REAs shall be responsible for the following:

- Implementation of policies developed at the Central level;
- Establishment and monitoring of RE schemes;
- Interaction with State Governments and SEBs; and
- Audits and enforcement actions.

4.3 Mechanisms for regulation

The REA shall employ several formal mechanisms to implement its regulatory responsibilities, including:

- Certificates to ensure safety and technical standards are understood and maintained;
- License, Consumer Protection Code, and Service Agreements to ensure service standards are met;
- Service agreements and dispute resolution processes to ensure tariff enforcement; and
- Monitoring and Evaluation Reports based primarily on operator and Zonal input to assess sector performance and develop recommendations for the future.

The Central REA shall refine existing versions of these documents (See Appendices), adopt them, and determine the reporting requirements, as appropriate.

4.4 Central REA Operating Procedures

4.4.1 Safety and Technical Standards Compliance

The Central REA shall develop inspection and monitoring policies to be implemented by the Zonal REAs. Providers shall be inspected on an agreed upon basis (regularly scheduled and/or random spot checks) to ensure that the requirements contained in their certificates are adequately maintained and documented. A Power Generator Operations and Maintenance Report form shall be developed for proper reporting purposes. Policies shall also be developed for the timely and comprehensive investigations of incidents or allegations of non-compliance with technical and/or safety standards.

4.4.2 System Safety Analysis

Due to the decentralized nature of generation in rural areas, the Central REA shall conduct an Integrated Vulnerability Analysis (IVA) on a yearly basis to assess possible failure scenarios and reduce the potential for system vulnerability.

4.4.3 Service Quality

The Central REA (in a collaboration between the REA Regulatory Structure and the RE Promotion unit) shall develop a relevant set of Key Performance Indicators (KPIs) that measure:

- Level of access to rural electrification by users, villages, and States;
- Performance of the rural electricity sector in general, including prices, services, new products, and reliability;
- Service quality delivered to consumers by service providers, including reliability;
- Effectiveness and timeliness of complaint processes;
- Performance of the Zonal REAs in responding to consumer and industry needs;
- Level of customer satisfaction with both the providers and regulatory authority; and
- Reliability, including generally accepted system indicators such as
 - System Average Interruption Frequency Index (SAIFA),
 - System Average Interruption Duration Index (SAIDA), and
 - Momentary Average Interruption Frequency Index (MAIFA).

4.4.4 Tariffs

With regards to setting tariffs, the REA Regulatory Structure shall provide the support suppliers need to calculate realistic and appropriate tariffs. Such calculations will take account of the capital costs, O&M costs, and reasonable profit. More specifically, they will account for the average annual cost of fuel, operation, maintenance,

generation, distribution, tariff collection, spares, equipment and operator fees, expected sales of electricity, generator capacity, number of connections and volume of consumption. The details of such calculations shall be determined by the REA once it is fully functional. These calculations will merely serve as a guideline, however, for which the promoters can arrive at a feasible tariff. Any given rate that the promoter and his customers agree upon, and commit to in the Electricity Supply Contract signed by representatives of both parties, shall be acceptable to the REA, with minor exceptions. While the REA shall not actually set the tariffs itself, the Agency will have two roles with regards to tariffs, providing guidance and information for determining appropriate tariffs and enforcing those agreed upon in the contracts.

This approach has been agreed upon, in lieu of a more prescriptive system, in consideration of the realities on ground in Nigeria, in particular, the desire to minimize the administrative burden on the REA, at least initially, and the belief that tariffs will largely be self-regulating. Tariffs shall be set through a negotiation process between potential suppliers and consumers. It is envisioned that the two parties will establish an acceptable rate for service based upon the promoter's costs to provide service and the consumers' willingness and ability to pay. The opposing interests of the two parties should produce a compromise suitable to both whereby tariffs are low enough for customers to afford, but high enough for promoters to sustainably, and profitably, run the business. The advantage of placing the burden of determining the tariff on the potential service provider, is that it is he who would have much better information (relative to the REA) regarding the costs associated with the system and the willingness and ability to pay among potential consumers.

Tariffs shall be set annually, and stated in the Electricity Supply Contract. Promoters shall be obliged to provide the agreed upon service at the agreed upon tariff for the duration of each one-year contract. Tariffs may be reviewed and re-negotiated with customers, if need be, when the Supply Contract is up for renewal.

The REA Regulatory Structure shall maintain a complaints department to receive reports on and investigate allegations of misconduct with regards to tariffs. The REA Regulatory Structure shall also conduct random audits of RE projects to ensure proper conduct in billing, among other things. The REA, upon establishment, will endeavour to set appropriate penalties for violations regarding tariffs and other aspects of the Electricity Supply Contract.

4.4.5 Capacity Building for Stakeholders

The Central REA shall develop a series of resources for potential providers that will assist them in constructing, operating, and maintaining safe, reliable projects. The Capacity Building Resources will include for the proper use and protection of equipment, as called for in the Consumer Protection Code.

4.4.6 Monitoring

The Central REA shall develop policies for the timely and comprehensive monitoring of sector, operator, and regulatory authority performance. The reports shall relate to compliance with the service agreements (including tariffs), certificates, customer code

and licenses. The monitoring shall measure compliance with the various safety and technical standards, service quality, and consumer protection processes. The Central REA shall establish collection, validation and reporting standards, using the M&E reporting forms to be utilized by the REF Management unit as a starting point (See Appendix).

4.4.7 Annual Report

The Central REA shall develop an Annual Report for submission to the REB, NERC, and the FGN to document regulatory performance relative to RE schemes. In addition to the service quality measures already discussed, the Report shall analyze the effects of the Zonal education efforts, the number/type/resolution of consumer complaints, results of audits and investigations, the impact of the tariff regime and related regulations, and results of incident/accident reports.

4.4.8 Enforcement and Audit Policy

The Central REA shall develop policies related to random and periodic audits of providers to assess tariff, certificate, service agreement, and license compliance. The REA shall also develop threshold parameters for the initiation of formal investigations and dispute resolutions. Formal mediation and/or arbitration procedures shall be adopted. Such alternative dispute resolution (ADR) schemes shall be monitored and reported on annually.

4.4.9 Coordination

The Central REA shall be responsible for ensuring that the procedures adopted conform with other FGN initiatives, and shall also be responsible for interaction with other governmental and system institutions.

4.4.10 Development of Regulatory Rules and Procedures

In addition to the operating procedures outlined here, the Central REA shall be responsible for reviewing existing rules and procedures and developing a transparent methodology for updating, amending, or creating new ones. Proposed rule/procedure changes shall be socialized to all relevant stakeholders and modified on a formal basis.

4.5 Zonal REA Operating Procedures

4.5.1 Implementation of Regulatory Policy

The Zonal REAs shall be responsible for carrying out the policies developed by the Central REA Regulatory Structure, and reporting on its performance on a yearly basis. The elements reported will be in accordance with Central REA requirements.

4.5.2 Maintenance of Technical and Safety Standards

The Zonal REAs shall carry out the inspections mandated by the Central REA of operating facilities to ascertain whether they are in compliance with adopted standards. The Zonal REAs shall collect compliance data on a regular basis to be forwarded to the Central REA for sector analysis. The inspections shall also document non-compliance and provide for accounting of corrective action. The Zonal REA shall investigate incidents/accidents according to criteria established by the Central REA.

4.5.3 Service Quality

The Zonal REAs shall collect and validate the data required by the Central REA for analysis of adopted service quality and reliability measures on a schedule adopted by the Central REA.

4.5.4 Audits and Investigations

The Zonal REAs shall conduct random and periodic audits, both scheduled and non-scheduled, on a basis adopted by the Central REA to ascertain whether operators are complying with requirements of their service agreements including tariff provisions, billing arrangements, complaint procedures and service standards.

4.5.5 Enforcement Actions

The Zonal REAs shall be responsible for prosecuting violations of any REA rule or mandate. They shall conduct formal and informal investigations based on complaints and their own initiative and report back to the Central REA on their findings. Along with the Legal/Contracts unit of the REA, the Zonal REAs shall be responsible for actual prosecutorial service.

4.5.6 Capacity Building

In accordance with the guidance outlined in Section 8 of this Manual, the Zonal REAs shall carry out any workshop or educational initiative mandated by the Central REA for the purpose of increasing the skills and knowledge of prospective and current operators, and/or Zonal REA staff. They will report back to the Central REA on the progress made on a periodic basis established by the Central REA.

4.5.7 Coordination

The Zonal REAs shall meet with their respective State Governments and State/Rural Electrification Boards on a prescribed frequency to ensure consistency of regulation and adherence to policies and procedures.

5 RE Promotion Department

The RE Promotion Department shall serve as an information clearinghouse and public outreach body. It shall be responsible for collecting and maintaining information on rural electrification, including existing and planned projects, renewable resources, rural load, technological innovations for cost-effective power supply, and the REA's own activities. Providing this service will be critical for encouraging and coordinating rural electrification activities led by communities, investors, Discos, State Governments, and others.

5.1 *Composition of Staff*

The RE Promotion Department shall require, at a minimum, the following core staff:

- Director, RE Promotion Department¹³
- Communications/PR/Media Specialist¹⁴
- Outreach/training specialist
- Engineer (specializing in innovative low cost options, training, and with strong communications skills)¹⁵
- Information Management Specialist/Librarian
- Database manager
- Institutional Development Specialist (in charge of developing the RE Promotion branch, promotional campaigns, reports, external relations materials and activities, and sector development)¹⁶
- Administrative Assistants (3)

5.2 *Functions and Responsibilities of the RE Promotion Unit*

The primary functions of the RE Promotion Department shall include:

- Preparation and production of annual REA reports;
- Development and maintenance of database of projects and resources;
- Liaising with donors and Ministries;
- Information campaigns and outreach activities;
- Promotion of low cost electrification options;
- Training of potential promoters and trainers at Zonal and State level;
- Monitoring the progress of the sector and the impact of rural electrification;
- Collecting and distributing information on the REF;
- Promoting cost reductions and institutional sustainability in RE-projects; and

¹³ See Annex I.12 for job description and qualification profile

¹⁴ See Annex I.13 for job description and qualification profile

¹⁵ See Annex I.14 for job description and qualification profile

¹⁶ See Annex I.15 for job description and qualification profile

- Publishing public notices of the REF application process and timetable for subsidy awards.

5.2.1 Promotional Campaigns

The RE Promotion unit shall organize national awareness campaigns and other promotional activities to publicize changes in RE policy and the opportunities arising for the private sector, local authorities and communities. The national awareness campaign shall use a range of media and regional seminars and aim to:

- Inform State Governments of the regulatory responsibilities of the REA at Zonal and Federal levels;
- Educate business and residential consumers on the benefits and advantages of different electrification technologies, including solar PV and the potential for productivity increases;
- Outline the guidelines for tariff calculation in an effort to explain the need for, but limit concerns over, tariffs that will be higher than the previous NEPA tariffs; and
- Inform potential project sponsors on the purpose of the REF and criteria for funding, the process for applying, and where information can be obtained about other possibilities for RE financing, consulting services, training and regulatory requirements.

In addition, the RE Promotion unit shall:

- Provide manuals on technology options and capacity building on low-cost designs and technologies;
- Give investors, including community-level project promoters, access to information packages on (i) project development and the steps involved, (ii) typical costs of investments and operation, (iii) how to set up a local mini-utility, (iv) instructions on how to calculate tariff rates, (v) legal and contract issues, (vi) technical standards, (vii) financing possibilities and application forms, (ix) and how to prepare a business plan and proposal to the REF, among others;
- Provide information packages to local authorities on regulations, regulatory approval procedures and possibilities for assistance; and
- Provide information to promoters and developers on costs of equipment and services, by region.

A key aim of the awareness-raising and information services is to mobilize private and community investments in RE. In developing the awareness campaigns and information services, the RE Promotion unit will consult with private sector business associations, to help identify and arrange business development assistance for specific entrepreneurs, firms, groups and others who are potentially interested in RE business opportunities.

5.2.2 Rural Electrification Database

An RE database shall be created by the RE Promotion unit, drawing initially on data from Zonal distribution companies and State/Rural Electrification Boards, and other existing data to develop a comprehensive ‘map’ of the extent of electrification needs and resources around the country.

The database will eventually be based on a Geographical Information System (GIS) data and shall consist of inputs from:

- Indicative RE master plan;
- Renewable resource data (solar, wind, hydro, biomass) – a database of which has already been developed for the REA;
- Executed and potential RE projects;
- RE project applications and awards, and their progress;
- Information generated by the FMPS (including previous donor-financed renewable energy and RE feasibility studies) and by the REA on resource and project opportunities, for example mini-hydro site inventories;
- Cost and demand data on rural electrification projects supported by the REA on a regionalized basis for comparative purposes;
- Socio-economic data of relevance for RE;
- Number of connected trade centers, towns and villages as well as remaining unserved;
- Number of connected consumers, schools, health centers, and water points connected, and total power demand and productive use demand, as well as remaining unserved; and
- Solar PV market development data.

A critical function of the REA is to make the information in the database easily accessible to the public, especially to existing and potential investors and others involved in rural electrification. This information is necessary to encourage investments by reducing the cost and accelerating the timing of the exploratory phases of any given rural electrification project. The RE Promotion unit shall ensure that GIS-based resources and other comprehensive methods are adopted and implemented to make the information publicly available and easily accessible on a priority basis to potential investors and others involved in the identification and development of RE business opportunities.

5.2.3 Promotion of cost savings and institutional sustainability

The REA shall use three instruments to promote cost reductions in RE and improved institutional sustainability of RE-projects:

- Standards shall be developed for least-cost technologies relevant to rural electrification;
- Technical feasibility studies for license applications shall be reviewed to ascertain whether least cost technologies are being proposed; and

- The REA shall promote institutional innovations as appropriate to address constraints to cost savings and sustainability.

In order to promote national knowledge about low-cost designs, the RE Promotion unit shall arrange for technical capacity building. This will include making available manuals covering key topics including:

- Criteria for design of rural distribution grids
- Construction norms and specifications for materials and equipment
- Local safety norms
- Methodologies for supervision of work

The REA shall support interested Nigerian promoters and other professionals to develop viable RE business plans.

The REA review of electrification plans submitted for license and subsidy applications will also be an opportunity for monitoring the dissemination and adoption of low-cost RE-designs by promoters.

5.2.4 Promotion of rural development

The FGN's Rural Electrification Policy emphasizes the importance of rural electrification as a powerful catalyst for rural economic development as it is critical to facilitating the development of productive capacity in agriculture, processing, manufacturing, services and improving the quality of health, education and water supply services and access to information and communications technology. The design of the REF investment subsidy scheme promotes the productive use goal. During the early years it shall favour projects with a high level of commercial and industrial, that is, productive use demand.

The REA shall use two tools to promote these goals:

1. At the RE program level, the REA shall actively promote cross-sectoral linkages with programs of other agencies, including other ministries. The ambition is to do as much as possible to coordinate and integrate upcoming RE projects with other Government programs in rural areas, in particular, in agriculture, communication, health services, education, water and transport. Agricultural processing is one of the major commercial rural electricity uses. As such, agricultural loads will often provide the base load for many of the new rural electrification schemes. Electrification support to health, water and education programmes will be provided according to guidelines from the relevant Ministries for the requirements of different sizes of health centers, schools and water supply facilities of rural communities.
2. RE investment projects will need to be complemented by promotion activities to develop load and increase incomes by assisting the customers to increase the productive uses of electricity. As part of its awareness activities, the REA shall, to the extent possible, provide information on the commercial feasibility and financing options for investments in electricity consuming equipment. In doing

so, it will need to work with organizations that promote rural enterprise development.

5.3 Reporting on RE Status

The RE Promotion unit shall play a key role in collecting and disseminating information on RE generally. The main reporting mechanism shall be the annual RE Status Report, which will monitor the achievement of the rural transformation objective against a number of key performance indicators. These indicators shall reflect:

- The number of productive customers that have been connected during the year and the estimated productive load;
- The number of health facilities that have been electrified during the year and the number of people served by those services, as well as the percentage and number of clinics that are without electricity service;
- The number of pupils attending schools that have been electrified during the year and the percentage and number of schools that remain without electricity service;
- The number of people served by water points in growth centers and urban areas in RE areas which are equipped with an electric/PV pump for water pumping and the number of communities which remain without electricity or other power source;
- The number of agricultural processing-related electricity connections;
- The number of rural people in Nigeria that have been provided with access to electricity during the year, the total number and percentage of people in Nigeria with and without access to an electricity service;
- The number of communities and agglomerations in Nigeria that have been electrified during the year and the percentage and number of communities and agglomerations by category of size that remain without electricity service;
- Progress in rural electrification coverage (percentage of rural population living in electrified areas) against the RE Strategy's year 2020 target;
- Progress in the rural connection rate (percentage of rural households having electricity service) against the RE Strategy's year 2020 target; and
- Progress in solar PV market development for isolated households and institutions (number and capacity of subsidized systems installed for households and institutions).

6 Zonal REA Offices

Given the decentralized nature of the REA functions, much of the responsibility for implementing REA policies shall be delegated to the Zonal offices. Their roles are described in more detail below.

6.1 Composition of Staff

Each Zonal REA office shall require, at a minimum, the following core staff:

- Director, Zonal Office
- Director, Regulatory Affairs
- Engineer (an expert on innovative low cost options and outreach/training)
- Engineer (a specialist in Rural Electrification design)
- Economic/Financial Specialist
- Rural Development/Sociology/PR Specialist
- Auditor/Investigator
- Analyst (responsible for data collection and reporting)
- Administrative Assistant

The staff shall work together in a tightly coordinated unit to carry out all three main functions of the REA: subsidy support, regulation, and RE promotion. Each of the Zonal staff will also work in close collaboration with their respective unit Directors in the Central office to ensure that implementation is conducted as intended, and consistently across zones.

6.2 Functions and Responsibilities of Zonal REA Offices

Each of the six REA Zonal offices will be headed by a Director with staff to undertake the following functions:

1) Regarding the REF implementation:

- Verify that applications fulfil the formal requirements imposed by the instructions for the application, (see the draft Application Form included in the Appendix);
- Verify that eligibility criteria are fulfilled, including the license conditions;
- Check the investment cost figures against benchmarking figures and determine whether the costs seem in proportion;
- Calculate each eligible project's subsidy entitlement, if selected for award;
- Score and rank the batch of eligible applications and forward them, along with the recommended prioritisation and a short information note, to the Central REA for review and selection at the next REB meeting; and

- Draft the contracts for the projects selected by the REB for subsidy funding and forward them for review by the Central REA's Legal/Contracts Advisor.

2) Regarding regulation of RE schemes:

- Implementation of policies developed at the Central level;
- Establishment and monitoring of RE schemes;
- Interaction with State Governments and SEBs; and
- Audits and enforcement actions.

3) Regarding RE promotion:

- Implementing information campaigns and outreach activities designed at the Central level;
- Distributing information on the REF;
- Collecting data on projects and resources for inclusion in the Central REA database;
- Gathering data on costs of RE equipment;
- Promotion of low-cost electrification options through trainings and workshops;
- Capacity building/advising on RE design, low-cost options, innovative commercial arrangements, etc.;
- Train SEBs to provide technical support to project promoters;
- Training of potential promoters on, technical issues, etc.;
- Liaise with State Governments, SEBs, etc... on RE activities;
- Monitoring the progress of the sector and the impact of rural electrification;
- Contribute to the annual REA reports;
- Develop quarterly reports to be submitted to the Central REA; and
- Develop proposals for system improvements (propose changes to the process, policies, and address system problems).

7 REA Relations with Outside Institutions

Given the broad impact rural electrification has on many sectors, there are many institutions conducting activities that relate in some way to the REA's role. Proper coordination with other relevant agencies can ensure a more efficient allocation of resources, and therefore, better results towards the rural electrification goals.

7.1 Federal Ministry of Power and Steel (FMPS)

According to Art. 89 of EPSRA “The Minister shall draw up the structure of the [Rural Electrification] Agency; provided that in the composition of the membership due regard shall be given to professional competence, stakeholders' interest and geographical spread. . . .The Minister shall...prepare and submit for approval to the President a sustainable and coordinated Rural Electrification Strategy and Plan for Nigeria.”

7.1.1 REA Operational and Institutional Development

With regards to the overall functioning of the REA, the Minister shall:

- Approve the regulations and guidelines of the REF and of the REA, consulting with stakeholders (including NERC) as necessary;
- Nominate the members of the REB for controlling the use of budgetary funds by Trust Agent and annual budget of REA;
- Authorize and sign conventions with donors for providing funds to the REF; and
- Approve the RE Strategy and annual Status Reports to Cabinet and the National Assembly, which shall contain the subsidy rates and eligibility criteria.

7.1.2 RE Sector Development

The Minister shall periodically evaluate the impact of the rural electrification programme. In addition, The Minister shall, once in a quarter, submit to the President reports, prepared in consultation with the Rural Electrification Agency and NERC, on the progress and achievement of the Rural Electrification Strategy and Plan, which shall include information relating to:

- The expansion of the main grid;
- The development of isolated and mini-grid systems; and
- Renewable energy power generation.

7.1.3 Rural Electrification Strategy and Plan

The Rural Electrification Strategy and Plan shall be prepared under the responsibility of the FMPS in close consultation with the REA, NERC and the State Governments,

and drawing on the plans of the distribution companies and State Electrification Boards.

The Plan should:

- Establish the long-term rural electrification targets to be achieved within the next 20-year period expressed in terms of electrification coverage, including number and percentage of villages to be electrified, percentage of rural population living in electrified areas, percentage of rural population having electricity service;
- Give a breakdown of the increased coverage planned by the distribution companies;
- Provide GIS maps showing the priority “economic corridors”, currently un-electrified, where rural electrification investments will have most impact;
- Give a breakdown of the additional long-term quantitative targets by five-year intervals;
- Outline the optimal, least-cost mix of technologies to satisfy the rural population's demand for electricity services;
- Outline the optimal expansion program for the national transmission system to provide least cost electricity supply; and
- Estimate the cost of investment of the rural electrification program during the 20-year period.

The indicative Plan, which shall be updated every five years, has three functions.

The first is to provide information of use to the State Governments in their planning of RE investments. It can be used by the Transmission Company to plan its investment programme for extending the HV-grid (lines higher than 33 kV) into rural areas. State Electrification Boards, IPPs or generation and distribution utilities can make their investments in decentralized generation and distribution facilities, knowing from the indicative plan if, and approximately when, the transmission grid will be expected to come near enough to allow for connection to the national grid. The distribution utilities can see which geographical areas are considered by the government to have high priority for rural electrification projects for the next five-year period and can plan accordingly. Consumers in off-grid areas and commercial providers of PV-systems can take decisions on their investments knowing whether or not competing grid supply will be provided in the near future.

The second function is to provide a rational "de-politicized" basis for the selection of priority projects at the State level. The identification of priority projects in the plan is done on the basis of well-defined objective criteria that have been thoroughly discussed with national stakeholders at RE seminars convened by the REA. The ranking order in the plan for priority projects is done through the modelling of the costs and benefits of electrifying individual areas. Although the plan is indicative, it will serve as a useful basis for discussion on decisions taken by the FMPS, the REB, and the REA.

The third function - closely linked to the second - is to promote regional equity. The funding of proposals is intended to achieve a basic regional balance in terms of

available finance. The use of published subsidy rates that are differentiated according to the three categories reinforces the equity effect.

7.1.4 Regulation and Subsidy Support

The REA shall coordinate closely with FMPS on a number of issues, including:

- What technical information shall be requested in the prescribed forms from applicants for both licenses and REF subsidy applications;
- On regulatory conditions that are to be included in subsidy conventions;
- On tariff regulation; and
- Joint capacity building activities to strengthen the administrative and regulatory capabilities of Zonal REA offices.

REA will not normally sign a subsidy convention unless the applicant has received a license from the FMPS. If the license has not already been granted then the REA will not authorize the Trust Agent to start disbursements to the project before the REA has received copy of the awarded license.

To provide added security to investors, the subsidy convention can instruct the Trust Agent to open an escrow account for a given project. The REF subsidy amount awarded in the convention shall then be transferred from the REF account to the escrow account from which the Trust Agent draws his disbursements once all requirements have been met.

7.2 *Other Relevant Ministries, Agencies and Entities Providing Services and Implementing Development Projects in Rural Areas*

To assist rural development the REA will closely coordinate and collaborate with State Governments and other official agencies, NGOs, and others that provide services and implement development projects in rural areas.

Coordination will be established through:

- Regular exchanges of information and ideas through informal contacts;
- Joint rural development seminars;
- Joint promotional and capacity building activities;
- Inclusion of a broad range of stakeholders in the REA's annual institutional review; and
- The Ministry's RE Strategy and Plan, incorporating inputs from various relevant government agencies involved in rural development.

7.3 State and Local Governments

The State and Local Governments shall be close partners with the REA during the entire project cycle:

- State Governments, through their State/Rural Electrification Boards, will in many cases be a major driving force for the identification and preparation of proposals to the REF.
- State Electrification Boards shall be provided advice and guidance from their Zonals REA in preparing proposals for REF funding, linked to local development plans and local / regional physical plans; this will include the REA assisting local governments that may wish to set up a mini-utility, wholly- or partly-owned by the local government.
- Local governments may be interested in setting up a local mini-utility wholly or partly owned by the local government for providing electricity services to unserved or under-served populations in their territory.

7.4 Commercial Banks

The debt-financing of RE projects by commercial banks would be complementary to the objectives and efforts of REF investment subsidies.

Project evaluation conducted by a commercial bank for loan appraisal covers the commercial viability of the project investment, including the sufficiency of the early cash-flows for debt servicing, the institutional sustainability of the set-up for the local utility and the credit worthiness of the project implementing company. The satisfaction of these requirements is an essential criterion for eligibility for REF subsidy funds, as it ensures the financial viability and therefore sustainability of RE projects. The expert know-how of the banks in performing these appraisals would facilitate the work of REA's REF Management unit in processing subsidy applications.

Thus, the REA will endeavour to encourage commercial banks to utilize the funds earmarked for small-medium sized enterprises (SMEs), for the debt-financing of qualified RE schemes.

7.5 Business-to-Business Services and Capacity Building

The success of FMPS's RE strategy, and the productivity of REF funding within the RE strategy, depends on the investment response of promoters to the RE subsidy. This in turn depends in part on (i) the capacities of promoters to generate quality RE investments, and (ii) the capacities of the financial sector to provide adequate financial services for commercially viable RE investments.

The REA has key responsibilities for capacity building. In particular, there will be regular staff level consultations on the REA's provision of system planning and other information from the RE database, basic capacity building in areas related to low cost designs and provision of information to raise awareness on productive uses.

The REA will maintain contacts with other organizations providing RE-related services and capacity building. For instance, for activities related to micro-finance, the REA will pro-actively seek useful opportunities to collaborate with the micro-enterprise finance institutions in Nigeria.

8 Institutional Development and Capacity Building

The concept of capacity building for the REA is not synonymous with the word “training”, but rather is a systems approach utilizing a “process by which individuals, organizations, and institutions develop abilities (individually and collectively) to perform functions, solve problems and set and achieve goals.” It involves a framework of multidimensional analysis and activities with both external outputs (customer/stakeholder satisfaction) and internal outputs, including recruitment strategies, a training plan based on a needs and skills assessment (gap analysis), and continuous coaching/development. Capacity building as a system exercise is especially important for new and developing organizations that may have limited financial resources, scarce professional skills, a rapidly evolving external environment, a potential for outside “pressure,” a low level of professional learning opportunities, and a desire to avoid “crisis management” as opposed to crisis prevention.

8.1 *Conceptual Framework for Capacity Building*

A comprehensive Capacity Building Model (Eldridge Model) for the REA as an institution would encompass the following steps and analysis:

- **Policy Analysis:** Policy formulation and diagnosis of current organizational strengths and weaknesses;
- **Institutional Diagnosis:** Identify key transition factors for policy and practice, and implication of those factors for the organization and management;
- **Definition of Key Organization and Management Components:** Strategic planning, work system design, and performance management;
- **Introducing Critical Enhancers for Capacity Building:** Adequate staff resources and development, individual, team, and organizational learning capabilities, and owned accountability and transparency components;
- **Specification of Organizational Capacity:** Structural factors including system, outputs, competencies, communication and information; and cultural factors such as values, sensitivity to various interests, and ways of working;
- **Definition of Delivery Mechanisms:** Adequate regulatory practices, enhancement of consumer awareness, and capable monitoring procedures; and
- **Monitoring of External Impacts:** Customer satisfaction, sector viability.

The net result would be the creation of a model to address the needs against the organization’s ability to produce the desired results. The model would encompass both recruitment strategies and a training program.

8.2 *Recruitment Strategies*

Recruitment is a function of the skills needed to perform the functions dictated. In the case of the REA, the generic professional designations articulated in the sections above (and detailed in the Annex to this chapter) are clear cut and likely available

within Nigeria. A recruitment plan encompassing available resources outside the agency for both experienced and entry-level personnel shall be developed as a subsequent exercise.

8.3 Training Plan

The training process for the initial and on-going training would consist of the following elements:

- Training need assessment;
- Training program content and design;
- Training application;
- Outsourcing services (Use in-house expertise as well);
- Training service delivery;
- Providers [Colleges, institutes, consultants, NGOs, International study]; and
- Evaluation and feedback.

The REA's learning model would incorporate both formal and informal elements and include:

- **Socialization:** Introduction to the organization, legal issues, ethics and conduct;
- **Introduction to Professional Issues:** Market structure, technology, project finance, economics, and legal principles; and
- **Ongoing Learning:** Management skills such as people management, budgeting, performance management, and project management; soft skills such as negotiation, presentation and communication and interviewing; and professional skills including technology, project finance and accounting, legal affairs, licensing, enforcement, and dispute resolution.

There is some overlap between the skill sets needed for the REA Regulatory Structure and the NERC, and the capacity building processes for the REA should be integrated with that entity. The REA needs will be limited compared with the NERC, with less emphasis on economic regulation, and more emphasis on analytical ability, database management, power systems, and consumer interface. The REA should, however, take advantage of any resources jointly available in the areas of accounting, legal aspects, tariffs, and reliability of service.

8.4 Specific Initial REA Needs

Absent a thorough capacity building process, which is not possible until the REA is established, it is impossible to draft a comprehensive capacity building plan. However, one can still draw some initial conclusions about the skills and abilities needed to successfully carry out the REA's responsibilities. As a minimum, it is recommended that recruitment and training address:

- Project Cycle Management

- Management Information Systems
- Project Finance
- Contract development
- Rural development and rural electrification
- Finance and accounts management
- Alternate Dispute Resolution-Arbitration, Mediation
- Information and communication campaigns
- Technical-Renewables, mini-grid design and installation, electrical works
- Project Monitoring & Evaluation
- Report writing

In order to promote knowledge about low-cost designs, the REA shall arrange for technical training among its engineering and other technical staff. Such training should cover:

- Criteria for design of rural distribution grids
- Construction norms and specifications for materials and equipment
- Local safety norms
- Methodologies for supervision of work

A capacity building plan for the REA shall have many different elements, and needs further analysis as the agency develops. The above-described process is an on-going set of activities that needs to be exclusively managed as part of the REA's core responsibilities and, hopefully, competencies. A more detailed plan for recruitment and capacity building shall be developed to guide the REA in the initial steps towards institutional development.

9 Operating Budget for the REA

9.1 Indicative Annual Budget Summary

ITEM NAME	Naira	US\$
Costs of REA Staff	176,102,160	1,354,632
Upfront Investment in Furniture and Equipment	32,617,000	250,900
Operating Costs, including rent, maintenance, consumables etc	18,304,000	140,800
Program Costs and Sub-Contracts	9,388,860	72,222
REB Meetings and Fees	2,123,290	16,333
Annual fee for REF Trust Agent	11,700,000	90,000
Sub total	250,235,310	1,924,887
Contingencies	25,023,531	192,489
Grand total	N 275,258,841	\$2,117,376

9.2 Indicative Staff Costs

Position	Qty.	Salary per Person		Total per Category Naira/yr.	Salary Per Person		Total per Category US\$/yr.	Level	Unit/Office
		Naira/mo.	Naira/yr.		US\$/mo.	US\$/yr.			
Director General	1	593,190	7,118,280	7,118,280	4,563	54,756	54,756	Central	DG
Director	3	430,040	5,160,480	15,481,440	3,308	39,696	119,088	Central	Regulation, REF, RE Promotion
Director of Zonal Office	6	371,410	4,456,920	26,741,520	2,857	34,284	205,704	Zonal	Zonal
Director of Regulatory Affairs	6	371,410	4,456,920	26,741,520	2,857	34,284	205,704	Zonal	Zonal
Legal/Contracts Advisor	1	201,890	2,422,680	2,422,680	1,553	18,636	18,636	Central	Legal/Contracts
Legal Assistant	2	149,500	1,794,000	3,588,000	1,150	13,800	27,600	Central	Legal/Contracts
Administrator/Accountant	1	89,440	1,073,280	1,073,280	688	8,256	8,256	Central	Administration/Finance
Human Resources/Personnel Manager	1	71,500	858,000	858,000	550	6,600	6,600	Central	Administration/Finance
Engineer	3	201,890	2,422,680	7,268,040	1,553	18,636	55,908	Central	Regulation, REF, RE Promotion
Engineer	12	149,500	1,794,000	21,528,000	1,150	13,800	165,600	Zonal	Zonal
Communications Specialist	1	89,440	1,073,280	1,073,280	688	8,256	8,256	Central	RE Promotion
Communications/Rural Dev't/Sociology	6	71,500	858,000	5,148,000	550	6,600	39,600	Zonal	Zonal
Librarian	1	89,440	1,073,280	1,073,280	688	8,256	8,256	Central	RE Promotion
Database Manager	1	89,440	1,073,280	1,073,280	688	8,256	8,256	Central	RE Promotion
Monitoring Analyst, Database Asst.	2	71,500	858,000	1,716,000	550	6,600	13,200	Central	Regulation
Institutional Dev't Specialist	2	89,440	1,073,280	2,146,560	688	8,256	16,512	Central	REF, RE Promotion
Outreach Specialist	1	89,440	1,073,280	1,073,280	688	8,256	8,256	Central	RE Promotion
Attorney/Regulatory Advisor	1	201,890	2,422,680	2,422,680	1,553	18,636	18,636	Central	Regulation
Legal Assistant	2	149,500	1,794,000	3,588,000	1,150	13,800	27,600	Central	Regulation
Auditor/Investigator	6	89,440	1,073,280	6,439,680	688	8,256	49,536	Zonal	Zonal (Reg)
Analysts	6	71,500	858,000	5,148,000	550	6,600	39,600	Zonal	Zonal
Finance Specialist	1	201,890	2,422,680	2,422,680	1,553	18,636	18,636	Central	REF
Economic/Finance Specialist	1	201,890	2,422,680	2,422,680	1,553	18,636	18,636	Central	REF
Economic/Finance Specialist	6	149,500	1,794,000	10,764,000	1,150	13,800	82,800	Zonal	Zonal
Administrative Assistant	11	65,000	780,000	8,580,000	500	6,000	66,000	Central	DG, Finance/Legal, REF (3), Reg (3), Prom 3)
Administrative Assistant	6	52,000	624,000	3,744,000	400	4,800	28,800	Zonal	Zonal
Receptionist	1	39,000	468,000	468,000	300	3,600	3,600	Central	Central-Finance
Security Guard	3	19,500	234,000	702,000	150	1,800	5,400	Central	Central
Security Guard	12	13,000	156,000	1,872,000	100	1,200	14,400	Zonal	Zonal
Driver	3	39,000	468,000	1,404,000	300	3,600	10,800	Central	Central
Total Amount	109	4,513,080	54,156,960	176,102,160	34,716	416,592	1,354,632		

9.3 Equipment

Item	No of units	Cost per unit, Naira	Total Naira	Cost per unit, US\$	Total US\$
Office fittings	1	1,625,000	1,625,000	12,500	12,500
Laptop	22	195,000	4,290,000	1,500	33,000
Desktop for data base use	1	520,000	520,000	4,000	4,000
Desktop normal	55	195,000	10,725,000	1,500	82,500
Laser Printer	2	104,000	208,000	800	1,600
Colour Printer with scanner	1	78,000	78,000	600	600
B&W Printer	9	65,000	8,450,000	500	4,500
CD-writer	1	65,000	65,000	500	500
Network	1	195,000	195,000	1,500	1,500
Office furniture	1	1,300,000	1,300,000	10,000	10,000
Vehicles	3	4,160,000	12,480,000	32,000	96,000
Mobile phones	10	39,000	390,000	300	3,000
Phones & faxes	12	13,000	15,600	100	1,200
Total Amount			32,617,000		250,900

9.4 Operating Expenses

Item	No. of Units	Cost per unit Naira	Per Year Naira	Cost per unit US\$	Per Year US\$
Office rental, 200 m2	31	260,000	8,060,000	2,000	62,000
Telecommunications	12	130,000	1,560,000	1,000	12,000
International air fares & workshops	3	520,000	1,560,000	4,000	12,000
Car maintenance and fuel, 60,000 km	60,000	26.00	1,560,000	0.2	12,000
Energy, water, building maintenance	31	39,000	1,209,000	300	9,300
Reproduction / copying	20,000	32.50	650,000	0.25	5,000
Technical literature, magazines	1	130,000	130,000	1,000	1,000
Insurance	1	520,000	520,000	4,000	4,000
Fee for auditors declaration	1	650,000	650,000	5,000	5,000
Staff training & manpower development	10	65,000	650,000	500	5,000
Maintenance, office equipment	15	117,000	1,755,000	900	13,500
Total Amount			18,304,000		140,800

9.5 Cost of Programs and Sub-Contracts

PROGRAM	No. of units	Cost per unit Naira	Naira per year	Cost per unit US\$	US\$/ year
Programs and sub-contracts					
RE-Promotion including workshops and manuals	1	5,777,720	5,777,720	44,444	44,444
Capacity building, including workshops & manuals	1	3,611,140	3,611,140	27,778	27,778
Total Amount		9,388,860	9,388,860	72,222	72,222
REB meeting expenses and fees					
- Members of REB	7				
- Number of meetings per year	12	25,200	2,123,290	194	16,333
REF Payment Agent					
-fees for handling larger projects	4	650,000	2,600,000	5,000	20,000
- fees for handling middle sized projects	20	130,000	2,600,000	1,000	20,000
- fees for handling small projects	150	43,290	6,500,000	333	50,000
Total Amount			23,212,150		178,555

Annex I: Staff Job Descriptions and Qualification Profiles

Annex I.1 REA Director General

The Director General shall be hired on a five-year contract subject to a six months trial period. The contract shall be renewable.

1.1 Tasks and responsibilities of the Director General

The responsibilities and tasks of the Director General shall be:

- 1) To provide all required assistance for the REB to ensure its efficiency, inter alia by:
 - Organizing and preparing the meetings of the REB and approving the draft minutes; and
 - Recommending the project selection criteria and annual schedule of subsidy rates for approval by the REB.
- 2) To establish a strong organization structure for the REB, by:
 - Preparing the annual work program of REA;
 - Preparing the annual budget of REA;
 - Establishing efficient an efficient management information system (MIS);
 - Developing manpower policies for REA;
 - Hiring and firing the staff of REA; and
 - Hiring Zonal REA directors and ensuring they have the capacity to manage the Zonal REA teams.
- 3) To ensure efficient operation of the work of departments by:
 - Providing thoughtful leadership to guide the work of REA departments and Zonal offices;
 - Peer reviewing the draft RE-Strategy and draft annual RE Status reports before presentation to the REB;
 - Fixing performance standards for the processing of applications from project promoters for funding support;
 - Signing and supervising the correct conclusion of contracts with consultants and other -sub-contractors; and
 - Monitoring the budget situation of REA throughout the year.
- 4) Seek advice from NERC on RE regulatory issues¹⁷
- 5) To establish strong linkages with relevant stakeholders in RE, by:
 - Maintaining close working relationships with senior staff at the most important public institutions involved in rural electrification such as: FMPS,

¹⁷ Through its involvement in the implementation of RE policy, the REA will develop strong knowledge and expertise of RE issues. The REA can provide feed-back to the NERC on regulatory issues where adjustments may be appropriate.

NERC, Federal Ministry of Agriculture and Rural Development, Federal Ministry of Health, Federal Ministry of Education, Federal Ministry of Finance, and Federal Ministry of Science and Technology.

- Maintaining close working relationships with senior staff at the most important private sector institutions involved in rural electrification such as contractors, the financial sector, the utility sector, the construction industry, consultants; and
- Maintaining close informative contacts with relevant donor representatives and encouraging them to contribute to the REF.

2. Qualification Profile of the Director General

Credibility: in the eyes of stakeholders - the business community involved in rural electrification, to State governments and local communities that actively prepare rural electrification projects - is the key qualification.

Education: University degree - Masters level preferred, or equivalent experience - in economics, engineering, finance or business administration.

Professional Experience: minimum 15 years. It must include experience with working in the private and in the public sector, preferably with business support services, and include substantial exposure to rural development and to national electrification issues. Management capabilities have been proven in previous senior position. Solid analytical, negotiating and communication skills.

Annex I.2 Legal/Contracts Advisor

The Legal/Contracts Advisor reports to the Director General.

1. Responsibilities and Tasks for Legal/Contracts Advisor

The responsibilities and tasks of the *Legal/Contracts Advisor* are:

- 1) To be REA's expert on legal issues in RE-projects, by:
 - Developing draft standard formats for contracts – e.g. contract for subsidy
 - Developing procedures for addressing legal disputes regarding REF-funded projects.
- 2) Legal quality control of legal documents used by REA in its promotion work by:
 - Verifying the legal consistency of all standard forms for application documents issued by REA for subsidy support to eligible activities
 - Preparing in cooperation with the Director of the REF Management Unit standard contracts (formats) for subsidy conventions signed with promoters,
 - Preparing in cooperation with REA senior staff, standard formats for contracts with subcontractors and other suppliers.
- 3) Legal quality control of legal transactions performed by REA, by:
 - Reviewing for legal consistency, before signature, all contracts made by REA with subcontractors and suppliers and all subsidy conventions with promoters;
 - Reviewing for legal consistency draft employment contracts
 - Reviewing for legal consistency draft conventions signed by REB/FMPS for donor support to REF.

2. Qualification Profile

Education: University degree in law passed with high academic marks.

Professional experience: minimum of ten years after graduation, working in public or in private sector, preferably in a law firm; previous exposure to contract issues.

Annex I.3 Administrator/Accountant

The Administrator/Accountant shall report to the Director General.

1. Responsibilities and Tasks of Administrator/Accountant

The responsibilities and tasks of the Administrator/Accountant shall be:

- 1) To ensure the efficient performance of daily routine tasks at REA, comprising:
 - Hiring and supervising the performance of repair personnel (electricians, plumbers, PC or photocopier repair contractors, etc.)
 - Timely payment of bills for office rental and for utility services (water, electricity, telecommunications)
 - Maintaining stocks of basic office materials, such as paper for printing
 - Drawing up weekly work schedules for the drivers in accordance with requests from the Heads of Departments
 - Ensure regular maintenance of the car pool
- 2) To perform the daily financial management control and reporting, comprising:
 - Daily maintenance of financial ledgers,
 - Quarterly reports to the Director General on the financial status of REA and its budget situation,
 - Assistance to the Director General in preparing the annual budget for REA.

2. Qualification Profile

Education: Accountant, with qualified university degree.

Professional experience: minimum of 10 years of work in public or private sector. Administrative and accounting skills proven in previous position.

Annex I.4 Human Resources/Personnel Manager

The Human Resources/Personnel Manager shall report to the Administrator/Accountant.

1. Responsibilities and Tasks of Human Resources/Personnel Manager

The responsibilities and tasks of the *Human Resources/Personnel Manager* shall be to ensure the proper staffing levels and capabilities of the REA, by:

- Liaising with departments and offices of the REA to determine staffing needs;
- Developing and issuing calls for candidates for open positions;
- Processing applications, screening candidates and recommending selected ones for interviews;
- Issuing and maintaining employment contracts with employees, as hired;
- Handling personnel problems/issues/disputes as they arise;
- Coordinating with the Institutional Development Specialists to determine the skills that need to be built within the REA, either through training or new hires;
- Coordinating staff reviews;
- Handling compensation packages and changes thereto;
- Coordinating staff benefits; and
- Monitoring staffing levels and recommending adjustments to the Director General as the organization grows.

2. Qualification Profile

Education: Business, with qualified university degree.

Professional experience: minimum of 5 years of work in public or private sector. Administrative and human resources/personnel experience in previous position.

Annex I.5 Director, REF Management unit

The Director of the REF Management unit shall report to the Director General.

When the volume of annual applications has become too large to be handled by one officer, an additional officer reporting to the first shall be hired.

1. Responsibilities and Tasks of Director of the REF Management unit

The *Director of the REF Management unit* shall retain responsibility for the entire team, its functions, and all the staff.

The responsibilities and tasks of the Director of the REF Management unit shall include:

1. Developing the process and procedures whereby RE schemes are awarded subsidy funds, including:
 - Developing the criteria for project evaluation
 - Developing the scoring/ranking procedure for evaluating RE applications
 - Developing the RE application forms, conditions, and procedures
 - Reviewing applications processed by the Zonal REA offices, and submitting recommendations to the DG for final approval
 - Make recommendations on the disbursement schedule for selected projects
 - Recommend changes to the funding process as needed
2. Setting the appropriate subsidy level for qualified RE schemes
3. Auditing Zonal operations regarding the REF
4. Promoting the supply of financial services for RE promoters,
5. Reporting to the REB and the Director General on the REF activities
6. Overseeing the compilation and submission of relevant data on REF-funded projects to the RE Promotion unit.
7. Monitoring and evaluating REF-funded projects

2. Qualification Profile

Education: University Degree in Economics, Finance or Business Administration, having achieved very high grades.

Professional experience: at least ten years of professional experience upon graduation, preferably in a project finance or financial sector organisation, and significant management experience.

Annex I.6 Finance Specialist

Finance Specialist shall report to the Director of the REF Management unit.

1. Responsibilities and Tasks of Finance Specialist

The responsibilities and tasks of the *Finance Specialist* are:

1. Regarding the processing of subsidy applications, upon receiving the applications from the Zonal REAs, the Finance Specialist shall:
 - Verify that grant applications fulfill the formal requirements imposed by the instructions for the application;
 - Verify that the basic eligibility criteria for projects are fulfilled;
 - Check the investment cost figures against benchmarking figures;
 - Calculate the subsidy entitlement for the projects; and
 - Assist the Director in selecting the projects to be recommended for subsidy support.
2. Assisting the Director in setting the appropriate subsidy level for qualified RE schemes; developing the criteria for project evaluation; developing the scoring/ranking procedure for evaluating RE applications; and developing the RE application forms, conditions, and procedures.
3. Assisting in the auditing of Zonal operations regarding the REF
4. Promoting the supply of financial services for RE promoters,
5. Within REA, the REF Management unit shall be the knowledge center for issues related to the financing of RE projects. As such the Finance Specialist will work to:
 - Maintain close contacts with financial intermediaries involved in RE-funding and Finance Institutions in Nigeria, for exchange of information and opinions on experiences with the financing RE projects and the needs of project promoters
 - Reach agreement with relevant RE financing intermediaries on common approaches to the evaluation of project proposals for funding, in particular, concerning the institutional and financial viability of the project
 - Closely consult relevant financial intermediaries on the design of the application forms for investment subsidies in order to ensure that the asked for information is compatible with information required by the financial intermediaries in any parallel appraisal of the project for the loan applications,
 - Actively participate as an official REA representative in seminars on RE-financing issues and options,
 - Keep up-to-date on international and national discussions on new financing concepts and institutional modalities and assist in developing and adjusting RE financing concepts that are used and tested in Nigeria,

- Encourage financing institutions to assist project developers in co-financing the initial up-front investment costs to consumer for internal installations and connection charges,
 - Promote linkages between commercial banks and micro-finance institutions,
 - Seek agreements with donors and NGOs on coherent and long-term sustainable approaches to RE-financing also in projects, where REA is not involved
 - In close consultation with specialized institutions, identify needs for capacity building projects for financial intermediaries in RE project appraisals and financing, assist in designing and setting up projects, sub-contract institutions for implementing these and monitoring and evaluating their performance
6. The Finance Specialist shall provide key information concerning the need to adjust individual subsidy rates and the eligibility criteria to the preparation of the annual RE-status report. To that end, the Finance Specialist shall:
- Monitor and evaluate the demand trend of approved projects and make a forecast for the likely demand for subsidy funds the next year based on the present level of subsidy rates;
 - If demand based on these rates is expected to exceed or to fall short of the funds for investment subsidies that are expected to be available the next financial year, propose the adjustment in the average rate that is needed to balance supply and demand;
 - Monitor, based on feedback from project promoters and consultants, the rationality and adequacy of individual subsidy rates within the overall schedule and, if needed, to suggest amendments in these.

2. Qualification Profile

Education: University Degree in Finance, Economics, or Business Administration, having achieved very high grades.

Professional experience: at least seven years of professional experience upon graduation, preferably in a financial sector organisation, in project finance or other related area.

Annex I.7 Rural Electrification Engineer, REF Management unit

The Rural Electrification Engineer for the REF Management unit shall report to the Director of the REF Management unit.

1. Responsibilities and tasks of Rural Electrification Engineer, REF Management unit

The responsibilities and tasks of the *Rural Electrification Engineer* for the REF Management unit are:

- 1) Conducting technical review of RE applications forwarded for review by the Zonal REA offices.
- 2) Developing and maintaining technical specifications for acceptable project equipment and construction materials for use by RE project promoters applying for subsidy funds.
- 3) Analyzing regionalized data on the cost performance of supported projects and to establish benchmarking figures for the cost of typical investment items that communities can refer in the evaluation of project proposals by developers and of service offers from construction firms and consultants.
- 4) Monitoring the performance and sustainability of Zonal RE projects through sample surveying by staff and consultants verify whether the operation experience gives raise to concern about the sustainability of the operation.
- 5) Analyzing the cost-benefit effectiveness of the balance between REF funds used (i) for general support and promotion activities and (ii) for direct investment subsidies to RE-projects,
- 6) Analyzing the appropriateness of the average level of published subsidy rates with regard to matching the expected demand and supply for subsidy funds the next year,
- 7) Analyzing whether there is a need to make any adjustments to individual rates of the published subsidy schedule,
- 8) Analyzing the effectiveness of the adopted criteria for the selection of rural electrification projects and for the selection of support programs,
- 9) Prepare recommendations for the Director of REF Management and the REA Director General concerning any need for changes in the selection criteria and in the subsidy rates to be used during the next financial year.

2. Qualification Profile

Education: University Degree in Engineering, preferably Power Engineer, with high academic marks.

Professional experience: Minimum of 10 years after graduation working with electrification issues, including in-depth experience with rural electrification, project evaluation and the preparation of feasibility studies. Solid knowledge of rural electrification designs and technologies.

Annex I.8 Institutional Development Specialist, REF Management

The Institutional Development Specialist for the REF Management team shall report to the Director of the REF Management unit.

1. Responsibilities and Tasks of the Institutional Development Specialist for the REF Management unit

The responsibilities and tasks of the *Institutional Development Specialist* for the REF Management team are:

- 1) Monitor and evaluate the effectiveness of the REF, its progress and impact, covering issues such as
 - Fulfillment of Government/FMPS strategic plan targets,
 - Cost-effectiveness of support programs and of investment subsidies,
 - Socio-economic impacts,
 - Regional equity,
 - Productive uses of electricity,
 - Public service uses of electricity in newly electrified areas, and
 - Effectiveness of inter-agency coordination in linking rural electrification with other rural development activities.
- 2) To collect relevant data on REF-funded schemes to be entered in the REA's RE Database, including:
 - Location, size, and technical specifications of projects
 - Project cost data
- 3) Monitoring the staffing and training needs of the REF Management unit, and develop proposals on how the team should grow and change to maintain and improved its effectiveness over time. Such reports shall be submitted to the Director of the REF Management team.

2. Qualification Profile

Education: University Degree in engineering, science, system analysis, economics, sociology, or political science with high academic marks.

Professional experience: Minimum of five years after graduation working on rural development or project finance issues. Strong analytical and inter-personal skills.

Annex I.9 Director, REA Regulatory Structure

The Director of the REA Regulatory Structure shall report to the Director General of the REA.

1. Responsibilities and Tasks for Director of the REA Regulatory Structure

The *Director of the REA Regulatory Structure* shall retain responsibility for the regulatory functions to be carried out by the REA. The Director will manage the REA Regulatory Structure unit and all the staff therein.

The responsibilities and tasks of the *Director of the REA Regulatory Structure* are to take lead responsibility for:

- Liaising with NERC on the development of appropriate regulations for RE schemes, and to resolve jurisdictional issues;
- Informing the Director General of any regulatory issues that call for consultation with NERC;
- Developing appropriate regulations for RE projects to ensure: Minimum safety and technical standards; Quality of service; Protection and proper use of the network equipment; and adherence to and payment of agreed upon tariffs.
- Developing appropriate regulatory tools and procedures for monitoring sector participants, including the electricity supply contract between promoters and consumers;
- Developing an auditing and enforcement policy; and
- Ensuring conformity of regulatory regime with competition laws, reliability and other regimes.

The Director of the REA Regulatory Structure shall be responsible for the following:

- Analysis of sector direction and performance;
- Interaction with NEPA, NERC, and other relevant sector institutions;
- Conformity of regulatory regime with competition laws, reliability and other regimes;
- Oversight and auditing of Zonal's regulatory and educational programs;
- Selective interventions at Zonal/local levels.

2. Qualification Profile

Education: University degree in law passed with high academic marks.

Professional experience: minimum of ten years after graduation, working in public or in private sector, preferably in a law firm; previous exposure to power sector regulatory issues; significant management experience.

Annex I.10 Attorney/Regulatory Advisor

The Attorney/Regulatory Advisor shall report to the Director of the REA Regulatory Structure.

1. Responsibilities and Tasks for Attorney/Regulatory Advisor

The responsibilities and tasks of the *Attorney/Regulatory Advisor* are to be the REA's expert on legal/regulatory issues and assist the Director of the REA Regulatory Structure in:

- Developing appropriate regulations for RE projects to ensure: Minimum safety and technical standards; Quality of service; Protection and proper use of the network equipment; and adherence to and payment of agreed upon tariffs.
- Developing appropriate regulatory tools and procedures for monitoring sector participants, including the electricity supply contract between promoters and consumers;
- Developing an auditing and enforcement policy;
- Ensuring conformity of regulatory regime with competition laws, reliability and other regimes;
- Monitoring and assisting enforcement of license conditions;
- Developing (and maintaining) an adequate Consumer Protection Code;
- Conducting contract enforcement and dispute resolution activities, in the case of non-compliance;
- Keeping abreast of development with NERC to ensure coordination of the two agencies;
- Developing and delivering capacity-building tools for the REA Regulatory Structure staff at the Central and Zonal levels; and
- Liasing with the RE Promotion Unit to develop outreach materials informing the public of the REA's regulatory role and their rights and responsibilities as consumers.

2. Qualification Profile

Education: University degree in law passed with high academic marks.

Professional experience: minimum of seven years after graduation, working in public or in private sector, preferably in a law firm; previous exposure to power sector regulatory issues.

Annex I.11 Rural Electrification Engineer, REA Regulatory Structure

The Rural Electrification Engineer for the REA Regulatory Structure shall report to the Director of the REA Regulatory Structure.

1. Responsibilities and tasks of Rural Electrification Engineer for the REA Regulatory Structure

The responsibilities and tasks of the *Rural Electrification Engineer* for the REA Regulatory Structure shall be:

- 1) Providing technical/engineering input on the development of regulatory tools, and monitoring and evaluation forms;
- 2) Providing technical/engineering input on any regulatory disputes that may arise;
- 3) Monitoring the need for and conduct capacity building activities for regulatory staff regarding technical and safety standards;
- 4) Liaising with NERC staff on any changes to the technical and safety standards for RE schemes;
- 5) Conducting and overseeing random technical inspections of RE schemes; and
- 6) Keeping abreast of international best practice in technical and safety standards, and technical specifications for low cost options;

2. Qualification Profile

Education: University Degree in Engineering, preferably Power Engineer, with high academic marks.

Professional experience: Minimum of 10 years after graduation working with electrification issues, including in-depth experience with setting, monitoring and evaluating safety and technical standards. Solid knowledge of rural electrification designs and technologies. Capacity building/training experience desirable.

Annex I.12 Director, RE Promotion

The Director of the RE Promotion team shall report to the Director General.

1. Responsibilities and Tasks of the Director of the RE Promotion unit

The *Director of the RE Promotion* unit shall retain responsibility for the entire team, its functions, and all the staff.

The responsibilities and tasks of the *Director* of the RE Promotion team shall be:

- 1) To promote awareness of the REA and its activities through:
 - A comprehensive communication policy and strategy, incorporating printed material, mass media, seminars and a website for awareness raising campaigns and for informing about REA services
 - National RE-Awareness Raising Campaigns designed to explain technology supply and demand options, proposal preparation and contract negotiations, setting and regulation of tariff levels, the benefits of electricity, etc.,
 - Maintaining the website up-to-date with information of relevance for project promoters, communities and consultants.
- 2) To improve understanding of the technical and commercial aspects of operating a RE scheme through:
 - Developing technical manuals to guide investors, contractors and consultants in identifying least cost solutions
 - Providing training on low-cost RE options and innovative commercial arrangements
- 3) To collect and disseminate information on rural electrification and renewable resources through:
 - Maintaining a publicly-accessible database with details on existing RE schemes (location, size, technical specs), as well as relevant information on the electricity grid and plans for expanding it,
 - Maintaining a publicly-accessible database of relevant cost data useful for promoters completing applications for funding and for the REA to monitor cost differences between regions,
 - Maintaining a publicly-accessible database of relevant data on renewable resources, both those currently utilized and those yet to be exploited.
- 4) To monitor and evaluate the effectiveness of the REA as a whole;
- 5) To monitor and evaluate development of the RE sector, progress towards the Government's RE goals, and the effectiveness of inter-agency coordination pursuing common goals.

2. Qualification Profile

Education: University Degree in Economics, Communications, Business, Rural Development, or Sociology having achieved very high grades.

Professional experience: at least ten years of professional experience upon graduation, preferably in rural development, communication, or public relations. Strong written and verbal communication skills, convincing negotiating capability, and some experience in graphic design and PR material layout. Significant management experience.

Annex I.13 Communications Specialist

The Communications Specialist reports to the Director of the RE Promotion unit.

1. Responsibilities and tasks of Communications Specialist

The *Communications Specialist* has the following responsibilities and tasks:

- 1) To develop a *communication policy and strategy* for the REA in close consultation with the Director of the RE Promotion unit and the Director General, which is submitted to the REB for approval. It shall cover:
 - Defining the key messages to communicate
 - Deciding the roles and use of printed material, mass media, seminars and internet/website for awareness raising campaigns and for informing about REA services
 - Maintaining the website up-to-date with information of relevance for project promoters, communities and consultants.
- 2) Organization of *National RE-Awareness Raising Campaigns*, which entails:
 - Supporting Zonal REA offices to hold regular regional seminars for local stakeholders in RE,
 - Developing and collecting publicity campaign and public awareness raising materials, including, information designed for explaining to communities about technology supply and demand options, proposal preparation and contract negotiations, setting and regulation of tariff levels, the benefits of electricity, etc.,
 - Preparing TOR and the contracts for outsourced public awareness activities including contracts with mass media and information bureaus for specific information activities.
- 3) Organization of *REA Communications services*, which entails:
 - Developing technical manuals to guide investors, contractors and consultants in identifying least cost solutions
 - In consultation with the Director of the REF Management unit, to develop standard application forms for proposals for REF funding and decide on proper dissemination strategies to inform about possibilities for REF/REA subsidy support
 - In collaboration with NERC, develop Communications packages for State Governments on regulatory issues
- 4) *Social intermediation*, which entails:
 - Assist Zonal REAs with organising regional seminars for State Electricity Boards, LGAs and other local stakeholder about what the RE-program is offering, the REA's the rationale and criteria for providing subsidy funds from REF for rural electrification projects,
 - To get feedbacks from Zonal REAs, on the views of their State Governments, local population and LGAs on the needs and views of the local population

2. Qualification Profile

Education: University Degree in Journalism, Communication, Political Science or Sociology having achieved very high grades.

Professional experience: at least five years of professional experience upon graduation, preferably in communication, public relations or journalism. Strong written and verbal communication skills, convincing negotiating capability, and some experience in graphic design and PR material layout.

Annex I.14 Rural Electrification Engineer, RE Promotion unit

The Rural Electrification Engineer for the RE Promotion unit shall report to the Director of the RE Promotion unit.

1. Responsibilities and tasks of Rural Electrification Engineer for the RE Promotion unit

The responsibilities and tasks of the *Rural Electrification Engineer* for the RE Promotion unit shall be:

- 1) Promotion of cost savings, which entails:
 - Keeping abreast of international experiences and advances in developing and introducing low-cost technologies for Rural Electrification, to keep FMPS, State Electrification Boards, Electrical engineering contractors and consultants informed and to encourage the transfer of promising experiences to Nigeria,
 - Developing and promoting technical manuals on low-cost designs and technologies for Rural Electrification,
 - Developing and promoting technical manuals on best practices for the organization and operation of local utilities,
 - Training REA staff on the latest low-cost options for RE schemes,
 - Assisting in regional seminars on low cost designs and on best utility practices,
 - Analyzing regionalized data on the cost performance of supported projects and to establish benchmarking figures for the cost of typical investment items that communities can refer in the evaluation of project proposals by developers and of service offers from construction firms and consultants
- 2) Promotion of institutional sustainability, which entails:
 - Monitoring the need for and performance of capacity building activities for financial intermediaries performed under the program management of outside institutions,
 - Preparing TOR and contracts for capacity building activities that are outsourced and monitor the effectiveness of these, and
 - Encouraging the establishment of an Association of Rural Electricity Service Providers.
- 3) Promotion of productive and public service uses of electricity, which entails:
 - Developing close collaboration procedures with other rural development agencies and encourage *inter-institutional linkages* between RE-projects and other rural development projects
 - Ensuring that promotion, information and needed TA is provided to rural consumers/small scale entrepreneurs for the identification of commercially feasible investments in electricity consuming equipment and preparation of business plans for presentation to banks
- 4) Developing the parameters for the collection of quantitative information on the RE development (investments during year, number of new communities being

connected, new consumers being connected, financing of investments: equity, loans, subsidies),

- 5) Analyzing the cost-benefit effectiveness of the balance between REF funds used (i) for general support and promotion activities and (ii) for direct investment subsidies to RE-projects,

2. Qualification Profile

Education: University Degree in Engineering, preferably Power Engineer, with high academic marks.

Professional experience: Minimum of 10 years after graduation working with electrification issues, including in-depth experience with rural electrification and technological advances, including low-cost options. Solid knowledge of rural electrification designs and technologies, and experience with capacity building. Strong communications skills essential.

Annex I.15 Institutional Development Specialist, RE Promotion

The Institutional Development Specialist for the RE Promotion team shall report to the Director of the RE Promotion unit.

1. Responsibilities and Tasks of the Institutional Development Specialist for the RE Promotion unit

The responsibilities and tasks of the *Institutional Development Specialist* for the RE Promotion team are:

- 1) To build and maintain the REA's GIS-based RE Database, which entails:
 - Defining which information (investment and socio-economic data) will be included in the RE Data Base,
 - Defining the breakdown of cost data that is needed to be provided in applications for funding and monitor costs in comparative tables on cost differences between regions,
 - Preparing, in consultation with the Communications Specialist, data to be made available to the public.
- 2) To monitor and evaluate the effectiveness of the REA as a whole;
- 3) To monitor and evaluate development of the RE sector, progress towards the Government's RE goals, and the effectiveness of inter-agency coordination pursuing common goals.
- 4) Monitoring & evaluation of relevant RE-programs that are performed outside REA's purview by other government agencies, donors and NGOs, which entails:
 - Acting as REA's contact point for donors and NGOs on rural electrification activities;
 - Maintaining close contacts with relevant NGOs engaged in RE-projects to encourage them in signing cooperation conventions with REA for exchange of data;
 - Reviewing regular progress reports forwarded by donors and NGOs and providing REA's points of views and comments; and
 - Drawing from the activities lessons learned of relevance for REA's programs and activities.
- 5) Monitoring and evaluation of renewable rural electrification programs and projects, in particular the promotion of solar home systems, wind power generation, biomass-fuelled electricity generation, small hydro power plants, that are performed outside REF-funded projects.

2. Qualification Profile

Education: University Degree in engineering, science, system analysis, economics, sociology, or political science with high academic marks.

Professional experience: Minimum of five years after graduation working on rural development issues. In-depth working experience with the development and use of data bases, preferably including work with GIS-based systems. Strong analytical and inter-personal skills.