



FEDERAL MINISTRY OF POWER



RURAL ELECTRIFICATION POLICY



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Acronyms/ Abbreviations

BPE	Bureau of Public Enterprises
Discos	Distribution Companies
ECN	Energy Commission of Nigeria
EPSRA	Electric Power Sector Reform Act
FGN	Federal Government of Nigeria
FMPS	Federal Ministry of Power and Steel
ICTs	Information & Communication Technologies
kW	Kilowatt
MARD	Ministry of Agriculture and Rural Development
MDGs	Millennium Development Goals
MW	Megawatt
N	Naira
NEEDS	National Economic Empowerment and Development Strategy
NEP	National Energy Policy
NEPA	National Electric Power Authority
NEPP	National Electric Power Policy
NERC	Nigerian Electricity Regulatory Commission
NGO	Non-Government Organization
NPIRD	National Policy on Integrated Rural Development
NREP	National Rural Electrification Programme
PHCN	Power Holding Company of Nigeria Plc
PPP	Public Private Participation
PSP	Private sector participation
PV	Photovoltaic
RDSS	Rural Development Sector Strategy
RE	Rural Electrification
REA	Rural Electrification Agency
REB	Rural Electrification Board
REF	Rural Electrification Fund
REP	Rural Electrification Programme (ini. 1981)
SEBs	State Electrification Boards (aka. RE Boards, or REBs)



Nigeria Rural Electrification Policy

The Nigeria Rural Electrification Policy expresses the intentions of the Federal Government of Nigeria (FGN) to enable greater access to electricity and to enhance sustainable economic and social development throughout Nigeria.

1.0 BACKGROUND

Rural Electrification (RE) is one of the most significant factors for sustainable human and rural development, along with shelter, security, safe water and sanitation, nutrition, healthcare, and education.

The FGN recognizes reliable electricity supply as a powerful catalyst for rural economic development. With a reliable and affordable power supply, rural areas can develop their productive capacity in agriculture, agro-processing, manufacturing, light to heavy industry, and services. Even small increases in electricity availability in rural areas can have a big impact in the quality of health services, education, and access to information and communication technology.

Suitable energy infrastructure also enables rural economic development by freeing up a significant portion of household income for more productive uses than would be the case when the source of energy supply is time-consuming, inefficient, costly, and entails externalities (e.g., pollution, deforestation). Thus, the lower cost and increased availability of reliable energy services in rural areas can have the combined effect of boosting existing rural incomes while improving the potential for development and quality of the environment.

Nigeria is endowed with a wealth of natural resources that can be utilized for electricity generation. The sources of energy for electricity generation include: fossil fuels (e.g. gas, coal, oil), renewable energy sources (e.g. solar, wind, biomass, small hydro, geo-thermal, tidal), as well as large hydro. With proper market and regulatory mechanisms in place,

these resources can be utilized to provide a reliable supply of electricity to all residential, commercial, industrial, and public sector consumers in Nigeria, at cost-reflective and affordable tariffs.

Achieving sufficient, cost-effective and reliable electricity supply is pivotal to the success of the implementation of the National Economic Empowerment and Development Strategy (NEEDS). Doing so will also assist Nigeria in meeting its Millennium Development Goal (MDG) of halving the number of people living in poverty by the year 2015.

A key objective of the FGN's Rural Electrification Programme (REP) has been scaling up electricity access in the country. The REP was initiated in 1981 by the Federal Ministry of Power and Steel and is executed by NEPA. A major strategy of the Programme is to extend electricity to all 774 Local Government Headquarters in the country. Today, about 80% of all constitutionally recognized LGA headquarters are connected to the national grid.

Despite this apparent achievement, more Nigerians today are without access to electricity than in 1981 when the programme commenced. The growth in overall demand for electricity has far outstripped supply, and households are created faster than the programme can connect them. The FGN has acknowledged that "there is a serious energy crisis in rural areas" [National Policy on Integrated Rural Development (NPIRD): Section 3.4.4.5]. Less than one fifth of rural households have access to electricity. Fuelwood (an unsustainable energy source in Nigeria) accounts for more than 85% of domestic cooking fuel used in rural households, and over 50% of overall energy consumption, according to the NPIRD and the National Energy Policy (NEP), respectively. These problems exacerbate (and are exacerbated by) the prevalence of poverty among rural households in which the average annual cash income of most families ranges from N. 1,031 to N. 8,820 (according to the Federal Office of Statistics).

One of the factors contributing to the poor level of Rural Electrification has been weak policy. Beyond connecting towns and Local Government headquarters, the REP has had no clear and concrete time-bound access targets, no clear sets of ideas and principles to guide cost-effective implementation, political interference in resource allocation, a

lack of diversified funding sources, and severe governance issues. On a business-as-usual scenario, the current approach to Rural Electrification will not meet national access targets and may not contribute effectively to the realization of the NEEDS and the MDG. The delivery of Rural Electrification is therefore ripe for reforms.

In concert with the National Energy Policy and the Electric Power Sector Reform Bill (EPSRB), a new Rural Electrification Policy will seek to increase the pace of new and diversified generating capacity. It will address the role of the state, market forces and the stakeholders, and will seek to de-politicise Rural Electrification by introducing demand-driven selection criteria. The policy shall create opportunities to leverage a diversified source of funding beyond government budgets. More so, it will create an environment to aggressively invest in renewable energy resources to address electricity demand in the country.

The National Economic Empowerment and Development Strategy targets the promotion of agriculture and food processing as part of a rural development strategy. This involves promoting the growth of Micro, Small and Medium Enterprises (MSMEs), and increasing their Total Factor Productivity, through targeting “growth poles”. The NEEDS also puts emphasis on the need for improvements in access to information & communications technologies (ICTs), education infrastructure and health services, especially the refurbishing of primary health care facilities. The strategy emphasizes the role of the private sector in the investments required. Electricity provision is fundamental to all of these development strategies.

The FGN has shown a commitment, in several other key policy documents, to address the energy needs of rural areas as a critical component of efforts to ameliorate rural poverty and underdevelopment, by:

- Promoting “the provision of electricity and other energy sources... to all rural communities on a regular and sustainable basis” through the NPIRD (Section 3.4.4.5).
- Striving to achieve the long-term objectives of universal access to electricity [National Electric Power Policy (NEPP): Section 2.1] and other energy sources (NEP: Section 1.8.1); and

- Working toward integrated rural development (NPIRD: Section 2.1).

Indeed, the FGN's commitment to Rural Electrification is also clearly demonstrated by the RE projects it has completed to date. Many have targeted local government headquarters or strategic towns/villages, while others have focused on utilizing Nigeria's vast renewable resources. A number of RE schemes are described in more detail in Appendix 3. Future activities derived from this Policy will be coordinated with and draw on lessons from such existing projects.

Following on its experience developing RE projects and rural development policies that address energy needs, the FGN now seeks to address the provision of rural electricity services in a separate, stand-alone policy document, contained herein.

The Rural Electrification Policy is rooted in a strong Government commitment to the provision of electricity to all rural communities on a regular and sustainable basis as an integral part of rural development as it seeks to stimulate economic growth and raise the living standards of its rural citizens.

The Federal Government of Nigeria realizes that the engine of growth for rural development, including the provision of electricity, lies within the private sector. Thus, the FGN has created this Policy, which facilitates public-private partnerships (PPP).

For the purposes of prioritisation, the FGN will classify rural areas under this Policy according to a holistic definition that incorporates a range of geographic, demographic, and economic characteristics, including remoteness, population density, socio-economic development, and access to infrastructure and public amenities such as schools and hospitals. Such classification will guide the allocation of the Rural Electrification Fund to areas where it can be applied most cost effectively against clear criteria through an open and transparent process.

2.1 Defining “Rural”

For the purposes of this RE Policy, the FGN will classify rural areas as such according to a definition derived from the parameters used by FGN Ministries involved in rural development and electrification.

Under this RE Policy, “rural” areas will be determined based upon the following factors:

- Population size and density;
- Remoteness and accessibility (to urban areas, given distance, terrain, and existing transport infrastructure);
- Availability of or proximity to basic infrastructure services;
- Significance of agriculture to the local economy; and
- Socio-economic indicators, including income, education, and health.

The above will form a working definition for the purposes of Rural Electrification. Given the broad range of geographic, cultural, and socio-economic conditions that prevail throughout Nigeria, this definition is intended to be sufficiently flexible so as to allow for local interpretation. It is understood that the classification of “rural”, while outlined above, is largely a relative concept.

2.2 Defining “Electrification”

For the purposes of this Policy and related activities, the Federal Government of Nigeria shall place highest priority on unelectrified localities. Those will be defined as localities that do not conform to the following definitions.

2.2.1 Grid-connected:

The FGN shall consider a village or locality as electrified if the following conditions are met:

- a. Electricity is provided using basic infrastructure such as distribution transformer, and distribution lines are provided in the inhabited locality; and
- b. Electricity is provided to public places (e.g. schools, local government headquarters, worship centres, health centres, dispensaries, community centres).

2.2.2 Off-grid:

The FGN shall consider a village or locality as electrified, if the following conditions are met:

- a. Electricity is provided to public places (e.g. schools, local government headquarters, worship centres, health centres, dispensaries, community centres);
- b. In the case of low power battery-based and stand-alone (such as solar PV) systems, the minimum quality of service standards should be sufficient for, at a minimum, lighting one main room and powering a radio; and
- c. For local networks, there should be a power source and distribution network in the community.

3.1 Guiding Principles

In view of the critical role that electricity plays in poverty reduction, economic growth, social development, employment creation and reduction in unsustainable migration to urban areas, the FGN adopts the following guiding principles for Rural Electrification:

- i. The FGN shall facilitate the provision of steady and reliable electric power available at all times, at economic rates, for residential, commercial, industrial, and social activities in the country.
- ii. The FGN shall facilitate the extension of electricity services to all Nigerians, irrespective of where they live and work.
- iii. The FGN shall facilitate the promotion of private sector participation in Rural Electrification (on and off-grid) in the development of the nation's abundant renewable energy resources by creating an enabling environment, while ensuring that governmental agencies, cooperatives and communities, where feasible, have adequate room to participate in enhanced electricity service delivery.

3.2 Objectives

The Rural Electrification Policy will seek to achieve the following specific objectives:

- I. Promote agriculture, industrial, commercial, and other economic and social activities in rural areas;
- ii. Raise the living standards of rural populations through improved water supply, lighting and security;
- iii. Promote the use of domestic electrical appliances to reduce the drudgery of household tasks typically allocated to women;
- iv. Promote cheaper, more convenient and more environmentally-friendly alternatives to the prevalent kerosene, candle, and vegetable oil lamps and fossil fuel-powered generating sets;
- v. Assist in reducing migration from rural to urban areas; and

Vi. Protect the nation's health and environment by reducing indoor pollution and other energy-related environmental problems.

3.3 Rural Electrification Goals

To assist in achieving the policies and objectives outlined above, the FGN has set the following targets:

- i. Making reliable electricity available to 75% of the population by the year 2020;
- ii. Providing electricity to all local government headquarters, as well as other strategic towns/villages by the year 2010;
- iii. Utilizing renewable energy resources for at least ten percent of all new connections; and
- iv. Progressively reducing the cost per connection of rural electricity schemes.

Progress in Rural Electrification will be measured against these targets.

3.3.1 Measures to Achieve Goals

To achieve the above goals, the FGN is committed to pursuing the following supportive measures:

- i. Improved service standards, including increased availability, reliability, and quality of power supply;
- ii. Improved affordability of power through competition, subsidies on capital investments, and reduced barriers to entry, among others; and
- iii. Improved financial sustainability of power supply, through appropriate tariffs policies that reflect costs of operation & maintenance, system expansion and upgrade, and a reasonable return on investment.

3.4 Approach to, and Social Goals for, Rural Electrification

For attainment of the goals of the RE Policy, and in recognition of the enormity of the challenge, the FGN will prioritise unelectrified villages for electrification. The first priority will be larger villages with more commercial activities. Given the geographic diversity in Nigeria, the FGN intends this as a relative measure, to be adjusted and applied, as appropriate, in each State for the purpose of prioritising financial assistance through the RE Fund.

The FGN will promote a demand-driven, that is, market-oriented, approach to Rural Electrification, emphasizing the need to ensure long-term sustainability. Public-private partnerships will be encouraged, whereby the private sector will be increasingly responsible for much of the service delivery with the minimum necessary financial support from the public sector.

Rural women are burdened, to a large degree, with running their households. As such they are the primary affected party when it comes to issues of acquiring energy sources for household use. Women (and girls) are most likely to retain responsibility of collecting firewood, and they are most exposed to the hazards associated with traditional household energy use, such as accidental fires and indoor pollution. Accordingly, the participation of women will be given specific attention in planning and evaluating rural electricity provision.

In parallel with the REF activities to promote access to electricity among the rural poor by subsidizing project costs, the FGN will consider maintaining and/or expanding current subsidies to help rural customers pay the initial connection and installation fees. New and existing subsidy mechanisms will be designed or adapted to promote economic efficiency, transparency and social equity. As with the project support, and in accordance with international best practice, subsidy support will be applicable to initial capital costs and not consumption.

I. Power Market Structure and Rural Electrification

The power market design, whose parameters are established by the Electric Power Sector Reform Bill, will facilitate innovation and flexibility, and recognize the importance of, and facilitate private sector involvement in, the provision of rural electricity, both on- and off-grid.

The power market design will encourage the existence and expansion of alternative energy service providers in rural areas as a means of developing and meeting rural demand for grid service. The power market rules will permit a range of industry and ownership structures to accommodate public, private, and co-operative entities.

The power market rules will also govern the intersection between the activities of NEPA's successor companies and those of rural operators, including interconnection issues and pass-through, among others.

The power market will be designed so as to encourage the entry of new alternative electricity service providers by eliminating possible barriers to entry, where such barriers may include, but are not limited to: granting exclusive supply rights to operators in a given service area, and discriminatory interconnection standards or tariffs.

To stimulate new entries to the market, the Federal Government of Nigeria will also consider providing funds to educate interested communities and individuals on the opportunities for Rural Electrification business ventures.

The Federal Government of Nigeria will support the new market participants and the continued development of local RE ventures whose activities may include the production, installation, operation, maintenance, and distribution/sale of equipment, systems, and services related to power generation. In support of such ventures, the FGN will consider implementing the following incentives: duty-free importation of

materials, components and equipment for Rural Electrification systems, tax incentives, investment capital allowances, subsidies, and low-interest loans, among others. The FGN will consider how best to coordinate such incentive schemes with the activities of the REA.

II. Mode of Electrification

The Federal Government of Nigeria seeks to achieve its Rural Electrification targets through a combination of grid, mini-grid and stand-alone systems. The FGN is aware that, while the energy itself might be inexpensive, the cost of extending the network is often high. Accordingly, when assessing electricity options, the effects of distance, terrain, technology type and standard, population density and a population's economic profile, all of which influence costs and cost recovery, will be taken into account.

A. Grid Extension and Connection

Grid extensions continue to be the most common means of Rural Electrification for proximate areas, given the advantages it has over off-grid electrification. Grid power is generally better quality and easier to manage than off-grid, and is also an easier means of meeting increases in demand. Thus, the FGN will continue to encourage grid extension as the primary means of Rural Electrification.

The following comprises the Federal Government of Nigeria's Policy on extension of rural electricity through the grid:

1. Extension of the national grid shall be the preferred method of electrification of towns and villages, except where alternatives (including mini-grids and stand-alone systems) are more cost effective;
2. New grid connections should be economically viable. Grid extension can be partly subsidized by the REF where it is expected that the energy charges, operation and maintenance costs, and a share of the capital cost repayment, would be covered by revenue;
3. Extension of the national grid shall take account of the availability of adequate generating capacity and transmission infrastructure. Distributed generation shall be encouraged where it can reinforce the network supply by providing extra capacity and boosting voltage;

4. The FGN will encourage regional equity and maximum accessibility to rural power supply nationwide; and
5. The Federal Ministry of Power and Steel will retain responsibility for developing the policy for and coordinating activities of the power sector.

In order to increase the financially viable coverage of Rural Electrification through the grid, the cost of meter reading and billing per consumer in areas of low demand and low population density, and the level of pilferage of electricity, must be reduced. This can be achieved by having local consumer groups, cooperatives, municipalities, NGOs or local franchisees take over the ownership of the local distribution network (with compensation to be agreed with the Disco), to purchase electricity in bulk from the Disco or other supplier at a rate to be negotiated, for on-selling to the local consumers at the standard retail tariffs. The franchisee/retailer would then be responsible for all meter reading, billing and distribution maintenance and expansion.

B. Off-grid Electrification

For remote settlements, grid connectivity is often found to be less cost-effective than off-grid solutions (including mini-grids and single-user systems). In these cases, technically and economically viable off-grid solutions can be developed using strong channels for service provision (including maintenance and repair) and appropriate generation technologies that rely on either locally available resources or developing effective distribution channels for fuel. In addition to addressing the immediate need for power, off-grid solutions can support eventual connection to the grid by building up load, thus improving the viability of grid extension to a given locality. Thus, off-grid solutions will be encouraged in areas that do not meet the criteria for grid extension (outlined above), as well as those considered to be of low priority for grid extension (i.e. electrification not anticipated within 5 years).

The FGN will encourage the utilization of renewable energy resources in the generation of off-grid electricity in acknowledgement of their environmental sustainability and cost effectiveness given specific remote power supply situations. The FGN will support the use of solar, wind, hydro, and non-fuelwood biomass resources. The FGN will create an enabling environment for private sector provision of renewable resource-based electricity and consider reducing import duties on equipment and materials required for such applications.

I. Mini-grids

The FGN will encourage the development of mini-grids in the pursuit of rural electrification. In recognition of the need to balance consumer and provider protection with the desire to attract potential suppliers, the FGN will adopt a light-handed approach to regulating mini-grid owner/operators. Regulation will include provisions to ensure:

- Minimum safety and technical standards are maintained;
- 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 mechanisms for such regulation will include, at a minimum:

- i. The requirement that mini-grids adhere to the safety and technical standards developed by NERC and obtain and maintain in good standing a Certificate to that effect.
- ii. The requirement that mini-grids obtain and maintain in good standing an operating license to act as a power provider.
- iii. The requirement that mini-grid operators sign a Service Agreement outlining the basic services to be provided and the rights and responsibilities of the consumers and suppliers, including terms and conditions for termination of the Agreement.

Tariffs charged for electricity from mini-grids will be regulated, taking account of:

- The need to protect consumers;
- The need for operators to have a viable business;
- The risks faced by the operators;
- The operators' expenses, including fuel;
- The customers' willingness to pay; and
- The level of grant capital funding from the Rural Electrification Fund.

A detailed approach to mini-grid tariff regulation will be defined in the subsequent Rural Electrification Strategy. In the meantime, it is understood that in the early stages of development of off-grid supplies, it is likely that greater flexibility will be needed to allow operators to charge

tariffs that they judge are needed to cover their operating costs and provide an adequate return on their investment. However, the REA will monitor operator performance to ensure fairness to customers, reserving the right to cap or to impose tariffs in the event of exploitation.

The REA will monitor:

- The tariffs charged for different classes of consumer;
- Customer satisfaction;
- The operators' business performance, including operating expenses and revenue; and
- The number of active connections.

In this way the REA will develop tariff-setting rules, based on experience, that are fair to the customers while providing sufficient incentives, in addition to the capital subsidies from the REF, to encourage participation of private or community-based operators.

It should be noted that in the long term, in the absence of competition from other operators, acceptable prices will be governed by the availability of cost-effective alternative supplies such as household solar PV systems.

ii. Stand-Alone Systems

The FGN will encourage the development of stand-alone systems to extend rural access to electricity. In recognition of the need to balance consumer and provider protection with the desire to attract potential suppliers, the FGN will adopt a light-handed approach to regulating suppliers of stand-alone systems. Regulation will include provisions to ensure:

- Minimum safety and technical standards are maintained;
- Quality of service;
- Protection and proper use of the network equipment (where supplier-owned);
- Adherence to and payment of agreed upon tariffs (if applicable); and
- Contract enforcement and dispute resolution in the event that either party violates the above principles.

The mechanisms for such regulation will include, at a minimum:

1. The requirement that stand-alone systems adhere to the safety and technical standards developed by NERC.
2. The requirement that suppliers of stand-alone systems obtain and maintain in good standing an operating license.
3. The requirement that mini-grid operators sign a Service Agreement outlining the basic services to be provided and the rights and responsibilities of the consumers and suppliers, including the terms and conditions for termination of the Agreement.

Except in the case of suppliers of stand-alone systems that have a service component, tariff regulation of any kind should not be required for non-networked single-user systems.

In addition to imposing minimal regulatory restrictions on stand-alone system providers, the FGN will encourage Rural Electrification by non-networked single-user systems, acknowledging the following:

1. Renewable energy power projects often have higher initial capital costs per kW delivered than non-renewable ones. However, they have the advantage of being more environmentally friendly. This factor should count in their favour in choosing and determining the level of support for renewable energy-based projects.
2. To encourage the growth of the renewable energy sub-sector, the FGN will work towards a low import tax policy for renewable energy components.
3. The FGN will introduce supportive measures to ensure the growth of local manufacturing of renewable energy technology components.

The Federal Government of Nigeria will clarify its overall objectives and priorities in rural development and establish strategies to harmonize and optimise the rural development activities of various institutions to bring the maximum overall benefit to rural people. The following is an overview of the institutions facilitating the achievement of the Federal Government of Nigeria's activities in Rural Electrification.

5.1 Federal Government of Nigeria

The FGN, through the Federal Executive Council and the Presidency, establishes the overall policy direction for the energy sector. It is responsible for enacting the necessary laws, regulations and other measures required to support the energy sector and energy sector reform. In doing so, the FGN ensures, through various Ministries and Government offices, the general consistency of energy policies with all other national policies, for example the consistency of the National Energy Policy with the National Electric Power Policy; or the consistency of the National Policy on Integrated Rural Development with the Rural Development Sector Strategy.

With regards to Rural Electrification specifically, the FGN is responsible for establishing the legislation and regulations required to support the RE Policy and Strategy. In addition, in accordance with the National Electric Power Policy, the FGN will be responsible for allocating money from the federal budget to the Rural Electrification Fund in order to finance Rural Electrification projects.

5.2 Federal Ministry of Power and Steel

The FMPS has overall responsibility for formulating electric power policy and facilitating its implementation. In terms of Rural Electrification issues, the FMPS is responsible for policy development on increasing access and Rural Electrification. The FMPS also monitors and evaluates the

performance and impact of Rural Electrification programs from a policy perspective.

The 1998 Amendment to the Electricity Act conveys fairly broad electricity sector regulatory powers to the Federal Ministry of Power and Steel. Those powers include:

- Establishing conditions for issuing and revoking licenses;
- Regulating the use and management of electrical equipment, so as to ensure public safety. Actual technical design (e.g. structures) is undertaken by NEPA;
- Regulating the design of electrical supply equipment and terms and conditions of electrical supply;
- Regulating quality of supply;
- Imposing fines for contravention or license conditions; and
- Any other measure which is deemed necessary for regulation of the sector.

NEPA historically oversaw its own program of investment and expansion of Rural Electrification, based on capital contributions by customers. The Administration's renewed emphasis, in recent years, on the extension of rural energy services has increasingly involved the Federal Ministry of Power and Steel, which has a budget devoted to Rural Electrification. State-level energy ministries and REBs also undertake their own investment and expansion programs, but these projects are passed to NEPA once they are ready for grid connection.

Under the present institutional arrangements, the FMPS oversees the operations of NEPA from a policy perspective. It should have a similar oversight function in the restructured power sector, but its exact role will need to be developed as part of the Strategy that flows from this Policy. Whatever the nature of its eventual role, it will be essential for the FMPS to closely coordinate and ensure harmony between NEPA's activities and those of the Rural Electrification Agency. The importance of this coordination role will increase as the broader power sector unbundling process advances, and new distribution entities are created.

5.3 Nigerian Electricity Regulatory Commission

The Electric Power Sector Reform Bill provides for the creation of the

country's first independent electricity regulator, NERC, which will grant licenses and regulate all electricity supply functions (generation, transmission, distribution and retail). As part of its responsibilities with regard to the national grid, NERC will regulate:

- Pricing;
- Quality of service;
- Reliability of supply;
- Obligations to serve and connect; and
- Investment and expansion plans (or at least review those plans for prudence).

The Electric Power Sector Reform Bill exempts from licensing requirements, and thus from NERC's scope of powers, any generating station with less than 1 MW aggregate capacity, distribution systems with less than 100 kW aggregate capacity, and "such other capacity as the Commission may determine from time to time, without a license". Moreover, for the time being, NERC bears no responsibility for off-grid service. This combination of factors has the potential to exempt a considerable number of Rural Electrification schemes from regulation by NERC. In the absence of NERC's direct regulatory oversight, the REA will carry out certain regulatory functions to ensure protection of consumers, providers, and power equipment.

Finally, in accordance with the EPSRG, NERC shall determine the level of the Rural Electrification levy to be paid into the Rural Electrification Fund by eligible consumers of electricity.

5.4 Rural Electrification Agency

The Rural Electrification Agency (REA) will be established as an independent and accountable agency, responsible for the coordination of Rural Electrification activities in Nigeria, and dedicated to selecting and funding Rural Electrification projects in a clear and transparent manner.

In accordance with the EPSRB, the REA will be established as a corporate body and subject to applicable laws. 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 Rural Electrification Agency will report to the Rural Electrification Board (REB). The composition of the REB will reflect the integrated nature of rural development and represent the relevant sectors, geographical zones, and range of stakeholders, including the consumers, community groups, the private sector, and financial institutions. The Board will be designed to ensure autonomy, transparency, and accountability as it oversees the REA and its activities.

The REA will be comprised of three branches, run by separate Directors, responsible for, respectively, implementing the RE Fund, regulating RE projects, and serving as an information clearinghouse and outreach facility.

Fund

The REA will establish and administer the Rural Electrification Fund to facilitate Rural Electrification programs through public and private sector participation. The objective of the REF will be to promote grid and off-grid electrification; encourage innovative Rural Electrification arrangements; maximize the economic, social and environmental benefits of Rural Electrification subsidies; and achieve regional parity with regards to access to electricity.

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

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

The details of the RE Fund are outlined in Section 8: Financing Rural Electrification.

Regulation

The REA will 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 are maintained;

- 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 mechanisms for regulation will include Certification (for safety and technical standards), an operating License, a Service Agreement, and, where applicable, tariff review. The REA will retain responsibility for the implementation of any or all of these regulatory measures, as deemed appropriate.

Information Clearinghouse

The third arm of the REA will be an information clearinghouse. It will 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.

Zonal-level REA

Given the decentralized nature of rural electrification, the REA will maintain zonal offices responsible for implementing the policies set at the Federal offices. This will include, for the RE Fund, reviewing projects, selecting those to receive funding, and distributing the funds (which come from the Federal level REA), as well as carrying out the regulatory functions assigned to the REA, and collecting and providing information on RE activities and renewable resources.

I. Federal Level

The Federal Ministry of Power and Steel will set and maintain overall policies at a national level for electricity supply to rural areas. It will continue to facilitate Rural Electrification initiatives and remain responsible for coordinating the national power strategy with NEPA, its successors, and the other relevant ministries, departments, authorities and organizations at the Central and State level.

The Federal Ministry of Power and Steel will set and revise targets for Rural Electrification across the country. It will monitor the performance of individual States and the REA, ensuring equity of access to resources, bearing in mind the particular needs of different states.

The FGN will ensure the coordination of rural development activities, (e.g. education, health, security, water supply and other economic activities) as part of its overarching Rural Development Policy under which all Government agencies understand their responsibilities and interface appropriately. Public investment in improved electricity supplies for health and education will provide a stimulus to the market for Rural Electrification, particularly for renewable and other off-grid solutions in remote areas.

The various existing Government programs supporting Rural Electrification will be reviewed to ensure coordination and complementarity with the activities of the Rural Electrification Agency.

The Federal Ministry of Power and Steel will continue to monitor and enforce technical standards. The REA will support the Ministry in this role by: 1. Making adherence to the safety and technical standards an eligibility requirement for the Fund, and 2. Requiring that recipient projects maintain their safety and technical standards Certificates in good standing as a condition for continued disbursement of RE funds.

The Rural Electrification Agency will also implement public awareness and training campaigns on the benefits of and the procedures to obtain Rural Electrification at the village level. The procedures will be developed in consultation with civil society representatives and implemented at Federal and State levels.

The Rural Electrification Agency will set clear criteria for the provision of financial support to State Electrification Boards and Distribution Companies.

To ensure effective coordination, harmonisation and planning of national Rural Electrification initiatives, the Rural Electrification Agency will provide a forum for the meeting of Rural Electrification stakeholders at least once a year.

II. Zonal/State Level

The Rural Electrification Agency will establish zonal offices to fulfil its duties as an RE Fund, regulatory agency, and information clearinghouse. Its presence at the zonal level will enable the REA to better coordinate, facilitate, and monitor the Rural Electrification activities under its care.

State REBs will retain responsibility for planning and implementing RE activities in their States.

The FGN will encourage coordination between the REA, SEBs, and the Discos, to the extent possible, in recognition of the great importance and complexity of Rural Electrification activities.

I. Nigerian Electricity Regulatory Commission

The Nigerian Electricity Regulatory Commission will create conditions that are conducive to service provision in generally unattractive circumstances, characterized by remoteness, low customer density, limited ability to pay, and lack of institutional capacity, among other factors. The regulatory policy will therefore recognize the necessity of adopting a lighter-handed approach to regulating small-scale rural electricity service provision, which may include:

- Reducing barriers to entry;
- Scaling back quality of service standards to cover basic health and safety issues;
- Applying more relaxed oversight of tariffs; and
- Lessening the regulatory compliance and reporting burden.

While acknowledging the importance of a light-handed regulatory approach, NERC will develop mechanisms for monitoring and preventing abuses of market power by providers of electricity service in rural areas.

Regulatory policy will balance the need to promote the existence of informal or other alternative electricity service providers, with the need to protect consumers from unsafe operating practices and abuse of market power.

Pursuant to the Electric Power Sector Reform Bill, NERC will be responsible for determining the Rural Electrification levy to be paid to the Rural Electrification Fund. The Rural Electrification Agency will maintain close coordination with, and advise NERC on the appropriate magnitude of the levy.

II. Legislative Framework

The FGN will amend existing legislation or pass new legislation that clearly delineates, in a way that is consistent across States, the roles and responsibilities of Federal, State, and Local Government agencies with regards to provision of rural electricity services. The FGN recognizes the importance of State and Local involvement in such projects and will promote active involvement of the relevant agencies at these levels.

There are many challenges inherent in the attainment of Rural Electrification. The FGN is aware that remoteness, high costs, low incomes, and poor access to markets pose problems. Despite these difficulties, the FGN understands there is considerable international evidence of ways in which rural power sectors have managed to attain sustainable funding. Subsidies can be targeted for maximum effectiveness. Partial financing of "set-up" costs can encourage communities or local entrepreneurs to finance a large part of the investment costs in rural electricity projects and take on the full operating and maintenance costs. This Policy is designed to stimulate a considerable drop in overall costs, which should in turn promote greater sustainability. This forms the cornerstone of the financing mechanisms envisioned in Nigeria's National Electric Power Policy and the Electric Power Sector Reform Bill, with the establishment of an independent Rural Electrification Fund operated by the Rural Electrification Agency, as articulated in this Policy.

I. Rural Electrification Fund

The central role of the Rural Electrification Agency is to provide economic resources and technical assistance for Rural Electrification activities throughout Nigeria.

The Rural Electrification Agency will promote Rural Electrification by issuing funds on a measured basis to RE projects across Nigeria. The REA will establish and administer a fund under the name Rural Electrification Fund for this purpose.

The purpose of the Rural Electrification Fund will be to promote, support and provide Rural Electrification programmes through public and private sector participation in order to:

- Achieve more equitable regional access to electricity;
- Maximize the economic, social and environmental benefits of Rural Electrification subsidies;

- Promote expansion of the grid and development of off-grid electrification; and
- Stimulate innovative approaches to Rural Electrification.

II. Funding Guidelines

The Rural Electrification Agency will develop guidelines for eligibility, awarding, and distribution of funds. While the details will be determined by the REA, the following are the basic principles upon which the REA will rely in establishing the funding guidelines.

Eligibility

A wide range of ownership structures of RE projects will be eligible for REF support. Projects led by the private sector, communities, and Government will be encouraged to apply for REF subsidies. In addition, a range of private sector participation models (including concession, dealership and leasing arrangements) will be eligible.

Rural electrification projects must be financially viable (apart from the initial capital subsidy) in order to be eligible for RE Fund support. That is, all consumption, operation & maintenance, and a given portion of the capital costs must be covered by the project's revenue stream.

Selection criteria

The REA will determine the list of criteria, their relative weights, and the formula to determine which project shall be awarded funding. The selection criteria will address the following elements:

- Economic and financial viability, with the initial capital subsidy;
- Promotion of social objectives, (e.g. service provision to a maximum of new consumers, fair allocation of infrastructure investment across regions and between populations of different income levels, and use of environmentally-sustainable energy sources);
- Choice of technology to be used, (e.g. preferential scoring of renewable RE projects);
- Cost effectiveness (e.g. cost per connection);
- Nature and extent of community support (e.g. consumer buy-in, willingness and ability to pay for service); and
- Investor commitment (e.g. significant capital investment).

Demand-driven projects with community and investor support are more likely to be financially viable and sustainable. By limiting REF financial assistance to such projects the FGN understands that it maximizes the effectiveness of the REF and sustainability of the overall Rural Electrification program.

The Rural Electrification Agency will monitor the evolution of the regional distribution of projects. The provision of demand-driven, sustainable electricity supply to a maximum of new consumers will be the major determinant for fixing the criteria for the award of subsidies to individual projects. Yet, the criteria will also take regional equity considerations into account.

Distribution of Funds

The Rural Electrification Agency will determine the guidelines for the amount of funds to be distributed to individual projects, based upon the funds available. For those projects selected for REF support, the Rural Electrification Agency will also determine how funding is to be disbursed relative to the input and output milestones established in the project proposal. The established disbursement schedule will be followed provided the operator continues to adhere to the requirements of the safety and technical standards Certificate, operating License, Service Agreement, and tariff regulations, as applicable.

III. Source of Funds

Pursuant to the EPSRB, the Rural Electrification Fund will consist of the following capital and assets:

- Any surplus appropriated pursuant to the EPSRB;
- Any fines obtained by NERC pursuant to the EPSRB;
- Any donations, gifts, or loans made by international agencies, State Governments, the Federal Government, local communities, businesses or any other entity; and
- Any contribution that may be made pursuant to the EPSRB, and interest and other benefits accrued to the Rural Electrification Fund.

Pursuant to the EPSRB, to the extent required by the Rural Electrification Policy and to cover and shortfall in the capital and assets of the Rural

Electrification Fund, NERC may determine contribution rates to be sent to the Rural Electrification Fund by:

- Eligible customers; and
- Consumers (other than the underprivileged consumers whose access to power is meant to be supported by this Policy), on the Commission being satisfied that retail power tariffs for such consumers have reached a level where they reflect the cost of electricity.

Pursuant to the EPSRB, NERC, while determining the contribution rates, shall take into consideration the impact of such rates on eligible customers and consumers who have to assume the burden of such contributions.

I. Initial Discussions

In the process of developing this policy, which seeks to address and balance the objectives of the various stakeholders, the Ministry of Power and Steel has, in line with the spirit of the EPSRB, adopted an open and participative process that ensures that stakeholders have the opportunity to present their facts and express their views.

As a starting point in the process, the Federal Ministry of Power and Steel held discussions with the many relevant government offices at the federal and state levels, as well as members of the private sector. These include:

- Bureau of Public Enterprises;
- Department for International Development;
- Diamond Bank;
- Energy Commission of Nigeria;
- European Union;
- Federal Ministry of Agriculture and Rural Development;
- Federal Ministry of Education;
- Federal Ministry of Environment;
- Federal Ministry of Health;
- Federal Ministry of Power and Steel;
- Federal Ministry of Science and Technology;
- Federal Ministry of Water Resources;
- Federal Ministry of Works and Housing;
- FSB International Bank;
- National Electric Power Authority;
- Oceanic Bank International;
- State Electrification Boards/Rural Electrification Boards;
- United States Agency for International Development; and
- World Bank

II. Discussion Draft

Subsequent to the initial discussions, on July 25, a draft entitled "Discussion of Policy Issues in Rural Energy Service Provision" was submitted offering a summary of findings and thinking after two weeks of conferring with key officials in a number of Ministries, infrastructure providers, multilateral development agencies, and private sector banking institutions. As part of the ongoing policy formulation work since late July 2003, discussions have continued among officials with knowledge of and involvement in various aspects of the energy sector and rural communities.

The Discussion Paper was followed by the "Draft Rural Energy Policy Paper" which outlines policy statements and their rationales. These policy statements, collectively, were intended form the "building blocks" of the stand-alone Draft Policy and serve as a discussion document for distribution among the various entities involved directly or in a consultative role with the development of Nigeria's rural energy policy.

The Paper drew on an extensive review of existing literature on Nigeria's energy and rural sectors, and several key policy documents. The policy documents include the following:

- Electric Power Sector Reform Bill;
- National Electric Power Policy;
- National Energy Policy;
- National Policy on Integrated Rural Development; and
- Rural Development Sector Strategy.

The Draft Rural Energy Policy Paper was circulated (in print and via-email) in September 2003 to stimulate an informed and meaningful debate on the policy issues at hand. Comments and feedback were solicited and informed the subsequent development of this stand alone Rural Electrification Policy.

III. Workshops/Meetings

Energy Commission of Nigeria

The National Energy Policy mandates the ECN be the focal point for the monitoring and coordination of the implementation of the National Energy Policy. The ECN will, accordingly, hold primary responsibility for ensuring that the Rural Electrification Policy derives from, and is consistent with, the overall National Energy Policy.

Federal Ministry of Agriculture and Rural Development (MARD)

The FGN recognizes the fact that integrated approaches to rural development, i.e. those that prioritise and address all challenges and basic services together, contribute more effectively to the achievement of rural development.

The MARD recognizes these principles and implements its own rural energy projects with a holistic approach, focusing on overall development needs of target communities, and often prioritising provision of transport and water infrastructure before provision of energy services.

The MARD will serve as a model for the REA as it adopts an integrated approach (as consistent with the NPIRD) in its selection, prioritisation, and implementation of Rural Electrification projects.

Furthermore, the FGN will encourage close collaboration between the REA and the MARD to maximize the results and avoid duplication of efforts.

Federal Ministry of the Environment (ME)

The Federal ME is responsible for establishing environmental policies, including air and water quality standards, and monitoring and enforcing compliance with environmental laws and regulations. The ME is coordinating a number of rural energy projects throughout Nigeria,

including an efficient woodstoves project and installation of solar panels for water pumping and irrigation.

The ME's activities, as well as those of the MARD, raise an important issue that must be resolved. While the various Ministries' pilot projects have provided much needed contributions to development of rural energy services in Nigeria, the impact of such projects could be enhanced through greater coordination. With coordination, rural energy projects can cover a broader geographical scope, as desired by the FGN, and share the knowledge and experience gained from sponsoring previous projects. Furthermore, economies of scale can be reaped when efforts are consolidated. The FGN will encourage the use of the REA as a coordinating body, with the provision that its role as such should not stifle the development of independent efforts through excessive bureaucracy and centralized control.

State and Local Governments

Many State Governments have their own Energy Ministries and/or Rural Electrification Boards, with responsibilities to plan and implement projects within state boundaries. State Governments make available a budget for funding such projects. As a result, State and Local Governments' rural development priorities influence Rural Electrification planning, with which the REA will have to coordinate.

At the Local Government (LG) level, authorities also have some responsibility to plan and implement Rural Electrification projects, with funding derived in part from their own budgets and supplemented by state and federal funds upon application and motivation.

A close working relationship between the REA and State and Local Governments is essential for the achievement of the shared goal of Rural Electrification and rural development. The mechanisms for such cooperation will be outlined in the FGN's Rural Electrification Strategy.

Electricity service providers

NEPA

NEPA is a vertically integrated electric utility that was established in 1972 through a merger of the Electricity Corporation of Nigeria and the Niger Dams Authority. NEPA, in its present form, has its federal headquarters in

Abuja and operates zonal offices in each geopolitical zone, as well as 54 district offices at the State Level. NEPA is mandated to execute the Federal Rural Electrification Programme initiated in 1981, and its Rural Electrification Sub-Sector (RESS) has responsibility for operations and maintenance of distribution networks in rural and semi-urban areas. The RESS is being decentralized to Distribution and Marketing Zonal Offices in the six geo-political headquarters.

In 1998 NEPA ceased to have an exclusive monopoly over electricity generation, transmission, distribution, and sales. As part of the ongoing power sector reform process, the current plan is to separate NEPA's electricity distribution function into 11 distribution and sales (marketing) companies that will ultimately be privatised. At a later stage, once the current power sector shortcomings have been resolved, full unbundling, as well as retail and wholesale competition, are envisioned.

Because NEPA alone has the technical expertise to do so, NEPA (and its unbundled successors) will continue to implement grid extensions as a means of providing electricity services in rural areas, but its activities will need to be coordinated with those of the Rural Electrification Agency, as stipulated in the discussion on the Federal Ministry of Power and Steel, above.

Future electricity distribution and retail companies

The new distribution companies emerging from the unbundling of NEPA will be responsible for the distribution and retail sale of electricity in their franchise areas, with separate licenses and businesses for their distribution and retail functions. Distribution companies will have a monopoly sales franchise to all end customers, but will be prohibited from operating generation plants larger than 20MW. The distribution function includes all grid networks up to but excluding 132kV.

Off-grid and mini-grid electricity service providers

The NEPP envisages a flexible ownership structure for off-grid and mini-grid electricity suppliers to allow for public, private, cooperative and mixed ownership arrangements. Consequently there will be a number of off-grid small distribution and sales companies. These providers are exempt, under the NEPP, from the provisions preventing vertical

integration. These providers will also likely to be excluded from some of the regulations designed for larger generation and distribution companies, as outlined in this Policy.

Bulk Power Purchasers

It is envisioned that upon sector reform, bulk power purchasers will emerge. Electricity retailing cooperatives or franchisees may set up to take over ownership, metering and billing of local distribution in some cases, particularly where demand is low. The FGN will encourage the addition of such market participants and their integration into the existing power market structure.

The following is a small sample of the many Rural Electrification projects in Nigeria. The examples given reflect the range of technologies in use, and project developers involved.

Projects Affiliated with the Energy Commission of Nigeria

1.87 kWp Village Electrification and TV-Viewing Plant, Iheakpu – Awka,

Enugu State: The project covered 50 homes at 2 or 3 light points per home, with 13 W high efficiency lamps, lighting of streets leading from village square, lighting of village hall and powering of a colour- TV set in the village hall. The village had no grid power. The installation was completed just ahead of the 1998 World Cup. It was a whole new experience for the villagers to be able to watch the World Cup matches for the first time. In like manner, they were also able to watch useful health, agricultural, educational and political programmes on TV. Service is automatically controlled for 7-10 pm daily. Since installation, the batteries had needed changing. However, the villagers were unable to fund the cost of new batteries and had to fall back on the Energy Commission, through the NCERD. Tripping of overload protector had occurred twice, due to parallel connection of a petrol generator in one case and an excessive load in another. The villagers promptly isolated the offenders from the service. The NCERD maintains the plant.

7.2 KWp Village Electrification Plant, Kwalkwalawa, Sokoto State: About 40 households, 8 shops in the local market, a koranic school and the village streets are powered. Each household has six lighting points and socket outlets for TV and radio. Operation is for 12hrs/day. The battery set has been changed once at cost to ECN and is due for a change in 2006. Operation and maintenance is by the ECN, through the SERC. The Local Government refused to take responsibility for operation and maintenance.

2.5 kWp Rural Clinic Power Supply, Agbashi, Nassarawa State: The project is part of the UNESCO World Solar Programme initiative. The service is in a rural clinic with out-patient and in-patient services. There's provision for a de powered solar refrigerator, in place of the ac unit. After initial installation, the clinic staff did not maintain the batteries as instructed, resulting in a need to replace them.

5 kW Wind Electricity Generator, Sayya Gidan Gada, Sokoto State: The installation consisted of 2 No. 2.5 kW wind turbines with ac output. However a battery bank of 16 No. 150 Ah Deep Cycle batteries was also installed to store the energy generated during low or zero load (daytime and early morning) for use at high load and low wind speed periods. The load is ac and so 2 No. 2.5 kW inverters were installed to invert the battery dc output to ac. Service is provided for about 30 households at 6 lighting points and some socket outlets per household, as well as for street lighting. The battery has an 8-year service life and is yet to be changed. The wooden distribution poles have suffered termite attacks need to be changed. Operation and maintenance is by the SERC.

Other Pilot and Commercial Projects: The Energy Commission of Nigeria, through the NCERD and the SERC had carried out several other pilot and demonstration projects. The SERC, for instance, had executed about 50 projects, spread especially over the northern states, including about 18 for PV water pumping, 11 for electrification using PV and wind, 15 solar thermal and biogas applications and others on improved woodstoves. The NCERD's projects cover the southern states.

A survey was conducted in 1998/99, by the ECN, on the status of industrial and other activities in solar-PV. It revealed the existence, by mid-1999, of over 40 companies and 2 research centres, involved in solar-PV activities (10). The companies operated as vendors, contractors and representatives of foreign manufacturers. Altogether, these agencies had carried out, by mid-1999, a total of 316 installations amounting to 238.8 kWp. The projects were spread over 27 states, with Lagos State having the highest number of installations and Ebonyi State, the least. Figure 22 shows the growth of cumulative installed module capacity. Most of the applications were for water pumping (52% by capacity) as

shown in Table-3. Telecom and Radio communications contributed 24%. The share of All Lighting was 15%, while that of Health Centre/Clinic was about 9%.

The analysis of the growth of annual demand of modules indicated that by this year, 2004, the volume of national demand would have exceeded about 300 kWp/yr, which is adequate to support local manufacture of PV-modules, starting with solar cells or even pure silicon wafers (ready for cell production) as inputs.

Other Rural Electrification Projects

Grid Connection in Kpyegy Village: Kpyegy had been served by a local entrepreneur who had installed a small generator to supply the village with power. Recently the Governor of FCT commissioned the electrification of the village by NEPA. The Federal Capital Development Authority provided a 500 kVA 33/0.415 kV transformer fed by a 33kV transmission line. The villagers had paid for the materials for the 415V distribution. About 170 households have been connected so far. The monthly bill is said to be N1000 per household, and will be collected by the Chief and handed over to NEPA. This is a great increase from the current N150 per month quoted by NEPA, which may reflect built-in stage payment for connection fees

Private Mini-Grid in Nasarawa State: There is just one (private) mini-grid in Nasarawa, although there are many sizeable towns at considerable distance from the grid – 50km to 120 km. The running costs of the 500 kVA diesel generator has to be met by the community, though it is very expensive and sometimes they cannot keep it running due to the high fuel costs.

Hydro Plant in Nasarawa State: A 50 MW hydro plant is being developed with Korean assistance, under an agreement between the State and the Government of Korea. It is expected that it will be handed over to NEPA, although a delay might be more financially beneficial to the State.

Grid Connection in Jere, Kaduna State: The electrification system at Jere was installed one year ago. A 33kV line feeds two transformers rated at

200kVA. These supply about 50 commercial users by the road and a larger number of households set back from the road. Commercial users included: TV / Video repairers, Electrical equipment shops (selling fans, light bulbs, cooking rings, etc), a welding shop, Battery charging, Business centre (photocopy, fax, typing), Photography shop, Cold drinks and yoghurt shop, Two mills (one using 2 x 15hp motors), Video shop, and Mobile phone charging. None of the customers were metered. The commercial users were paying an estimated bill (for example: just 100kWhs was charged per month for the mill) and the residential customers paid N150 per month.

Kateregi Village Electrification: Kateregi village has about 130 customers supplied by two 300kVA transformers. The chairman of the committee is the village head and the secretary is an agricultural extension officer. There are three other members representing the farmers and traders that live in the village. The grid extension was funded by the State Ministry and was connected to the grid 3 months ago. NEPA charge the village 150,000 Naira per month and has a list of all the customers. The committee agreed the following rates for the different customers: Commercial millers - N3,000/mth, Welders - N2,000/mth, Shops - N1,500/mth, Residences - N800/mth. For fairness, several small residences (such as two room houses) are allowed to share a payment of N800 per month. The committee collects the individual payment and presents it to NEPA in Minna along with a list of who has paid. NEPA then gives the committee individual receipts for all the customers. To date there has been close to 100% payment. If a customer fails to pay, the village head gives them two weeks to pay and tells them that if they do not pay within this time they will be disconnected. To date this has not been necessary.

Below is a table summarizing several common principles identified in many of the policy documents reviewed, and those principles that, while not common across documents, are believed to be of primary importance as principles underlying the formulation of the RE Policy. Following the table, there is a complete listing of the policy prescriptions considered while formulating the RE Policy.

Policy Area	Principle	Source
Organization		
	Support a wide range of industry and ownership structures to accommodate public, private, co-operative or mixed arrangements.	NEPP
	Promote private sector participation and private investment.	NPIRD, NEP
	Encourage Nigerian participation in energy sector.	NEP
	Encourage community involvement.	NEPP, RDSS
	Promote competition in energy sub-sectors.	NEP
	Permit vertical-integration of off-grid operations.	NEPP
Economic		
	Establish tariffs that enable cost-recovery.	NPIRD
	Stimulate efficient, cost-effective, and conservationist consumption patterns.	NEP

	Design a “lifeline” tariff for low-income households.	NEPP
	Restrict subsidies to cover connection costs (rather than consumption) and use them to promote universal access.	NEPP
	Provide facilities to finance investments in energy sector, in part by supporting commercial banks to do so.	NEP, RDSS
Technical		
	Promote universal grid connection.	NPIRD
	Diversify the energy supply mix in rural areas. Consider the full range of options: grid, off-grid, mini- and micro-hydro, non-thermal, renewables, etc...	NEPP, NEP
	Encourage renewables (solar, wind, geothermal, mini-hydro, etc...) for economic, strategic and environmental reasons.	NPIRD, RDSS
	Reduce reliance on and improve efficiency (and safety) of fuelwood as energy source.	NEP
	Promote environmental safety/protection and sustainability.	NEP, RDSS
Strategic		
	Develop tie-in product markets (and production centres) to encourage utilization of “modern” energy sources.	NPIRD, NEP
	Stimulate rural development (industrialization, improved agricultural production, etc...) to achieve economic growth and reduced rural-urban migration.	NEP, RDSS

National Electric Power Policy

- p.2 "The Federal and State government have vigorous policies of connecting local government headquarters and other towns and villages to the National Grid. This, coupled with the creation of new States and Local governments, have transformed additional parts of the so-called rural areas in to load centres, thus adding pressure to the already overloaded electricity supply system.
- p.5 "The Long Term Objectives [of the NEPP] are:...c. to provide universal access to electricity, although not necessarily through the grid...e. to establish and meet aggressive targets for the Rural Electrification program."
- p.8 On the institutions involved in the power sector: "The Federal Ministry of Power and Steel will have the overall responsibility for formulating electric power policy...and Rural Electrification objectives....The specific functions of the Ministry will include:... (iii) establishing, monitoring and evaluating the performance of policies for increasing the access to electricity particularly in rural and semi-urban areas, as set out in this Policy Paper."
- p.9 On the role of the State Governments in the power sector: "The state role will also include regulation of off-grid non-centrally dispatched electricity operations, which are wholly limited within the state boundaries."
- p.12 On the structure of the electric power industry: "Licensing of Power Sector Operators: ...The Government anticipates considerable expansion of off-grid electricity supply. This will be encouraged to develop under a wide range of industry and ownership structures."
- p.19 "The transmission company will have the responsibility for network expansion planning and load forecasting."
- p.19 "There will be a number of off-grid small distribution and sales companies most of which will have their own generation or other power sources."
- p.20 "The ownership structure of off-grid and mini-grid electricity suppliers will be as flexible as possible and allow for public, private, co-operative and mixed ownership arrangements."

p.21 "Off-Grid Systems: The proposed clear separation of business activities between generation, transmission, distribution and sales (marketing) would not apply to off-grid systems. They could continue as vertically integrated systems and without any imposed separation of functions or cross-ownership restrictions."

p.26-7 "Many villagers pay significantly more for electric power from off grid sources than comparable households in villages connected to the grid. Both of these demonstrate a willingness to pay higher prices for a more reliable service."

p.30 "Protecting Low Income Electricity Customers: ...[will be] tackled by: (a) the introduction of a nationally uniform "lifeline" tariff, e.g. for the first 25KWh of household consumption per month; (b) the restricted use of subsidies, post privatization, for the promotion of universal access such as in...connection subsidies for rural access."

p.31-2 Chapter 7: Rural Electrification Arrangement: "The primary objective of the Nigerian Rural Electrification policy ... is to expand access as rapidly as can be afforded in a cost-effective manner. This implies full use of both grid and off-grid approaches, with subsidies being primarily focused on expanding access rather than consumption. It is assumed that private sector providers will be heavily involved in enhancing access through - both the new distribution companies to be formed out of NEPA and a range of other companies.

p.31-32 "The Ministry of Power and Steel will continue to be responsible for laying down policy on increasing access and Rural Electrification, including (a) setting-out policy guidelines and (b) monitoring and evaluation the performance of the program and its agencies.

"The Rural Electrification Policy: The Rural Electrification policy shall: Include a full menu of Rural Electrification options-grid and off-grid, mini-grid, non-thermal, renewables, etc.; Ensure close co-ordination of Rural Electrification expansion with economic development objectives; and Encourage States, local communities and businesses to develop and contribute financially to Rural Electrification."

"Strategies: The proposed way of achieving these objectives is to establish an independent Rural Electrification Fund operated by a Rural Electrification Agency. The Fund: Will develop both grid-connected and off-grid Rural Electrification; Will operate with funding from an electricity levy on consumers and/or Federal subventions, supplemented by funding from States, private companies, community contributors, etc; Will be open to bids from a wide range of organizations; Will invite bids for funding of connections to supply (grid and off-grid) but not for consumption; Will only supply some proportion of the total funding so that other parties (distribution companies, local communities, business groups, etc.) would have to provide the rest."

"Key Features: Clear policy guidelines within which the Fund must operate, particularly the criteria for selecting between applications; Transparent procedures for the operation of the fund and its bidding process; and Proper accountability of the Fund e.g., independent audit, proper monitoring and reporting procedures, etc."

"Rural Electrification Fund: An access expansion for Nigeria will be developed based on the application of a Rural Electrification Fund. The criteria which the Fund will use is to be developed by the Ministry of Power and Steel and this will need to give due weight to development benefits and cost effectiveness as well as to equity and regional balance. The implementation of Rural Electrification programs should as far as possible encourage decentralization and diversity and make use of all resources (financial, technical and human) available at State and local levels. Such arrangements will need to be in place when the new distribution companies have been separated out of NEPA and privatised. The Government will commission a Strategy Study for Rural Electrification policy as soon as possible to start the process. This study should take for its starting point the Rural Electrification policy objectives and guidelines as set out above."

p. 34 "The NERC will be given powers under the new Electricity Law to issue, monitor and enforce codes of practice for obligations to serve and connect as well as for quality standards and to update and improve standards as supply conditions improve."

- p. 35 "The regional differentials in access to electricity, particularly grid-provided electricity, are exacerbated by poor access to reliable supplies of natural gas. This also significantly affects the relative regional costs of electricity and, hence, the economic prices that would need to be paid in different areas and regions of the country."
- p.35 "Natural gas...represents the major likely fuel for the future expansion of generation."
- p.35-6 "To transform the prospects for the development of both the electricity industry and the natural gas industry in Nigeria, Government shall explore the options for both on-grid and off-grid supply - and reduce the costs of electricity in many areas of the country. For this purpose, the Ministry of Power and Steel shall carry out a joint electricity and natural gas capacity expansion planning exercise alongside the proposed tariff strategy study. This proposed exercise should investigate how far there are commercial and wider economic benefits from developing gas powered generation and access to gas in regions of the country not currently served with natural gas."
- p. 44 "The NEPP presents, inter-alia, the policy objectives of the Federal Government of Nigeria in: a) promoting the deployment and utilization of electricity infrastructure and services; b) accelerating the socio-economic and political development of the nation; and enhancing the quality of life of the Nigerian citizenry."

National Policy on Integrated Rural Development

- p. 7 "Policy Objectives: ...to promote the expansion of the productive base of the rural economy through the creation and expansion of non-agricultural enterprises...to establish an integrated network of cottage and rural industries."
- p.8 Policy Objectives (cont.) "to develop the rural areas raise the quality of life in rural communities through the provision of rural feeder roads, potable water, sanitation, regular power supply, good health facilities and other socio-economic facilities....to conserve rural environment as the basis for living and the key to sustainable development with a view to enhancing the

- preservation of life forms and conservation of natural resources for renewable use."
- p.9 "Priority Areas for Integrated Rural Development: ...Promotion of rural productive activities...Objectives: to diversify and expand employment and income-generating opportunities and activities at the level of the rural community particularly in the following areas: ...manufacturing and industry..."
- p.12 Objectives for manufacturing and industry: "promote an enabling environment for rural industrialization through the development of rural infrastructure."
- p.20 Enhancement of Enabling Rural Infrastructure: Policy Statement: Infrastructure deprivation is one of the major constraints to rural development. This makes the rural environment a difficult one to live in and adversely affects the level of productivity and welfare. Government will take adequate measures to promote the development and improvement of rural infrastructure with a view to stimulating and promoting sustainable growth of rural productive activities."
- p.20 "Special attention will be paid to the following key areas: ...energy..."
- p.20 "Objectives: To increase public investment in rural infrastructure so as to reduce the present unacceptable inequalities between urban and rural areas; to ensure the provision and maintenance of an adequate level of infrastructural facilities and services in the rural areas; to improve the capability of local government and communities maintenance of rural infrastructure; and to promote the participation of NGOs, NPOs, PSEs, etc in the provision and management of rural infrastructure."
- p.24 "There is a serious energy crisis in the rural areas. Fuel wood accounts for over 85 percent of the domestic cooking fuel used by rural households. It is becoming more scarce and expensive to obtain. Its gathering takes a significant proportion of the working day of women and children and has led to extensive deforestation, desertification and environment degradation. The only other significant source of domestic fuel is kerosene, which

accounts for about 10 per cent of rural fuel use. Less than one per cent comes from electricity."

"With most rural communities not connected to the national electricity grid or any local scheme, more than 80 per cent of rural households have no access to electricity. Also discourages the establishment of modern industries."

"Government will promote the provision of electricity and other energy sources including renewable and non-conventional forms to all rural communities on a regular and sustainable basis. Accordingly Government will:

Pursue vigorously the program of connecting all major towns and villages to the national grid distribution network;

Encourage and support initiative to connect all communities to the national grid;

Promote the development and utilization of non-conventional energy sources for electricity generation and other energy applications including solar, wind biogas, geothermal, mini-hydro, etc;

Expand the existing national gas pipeline network to serve industries and domestic consumers both in urban and rural areas;

Encourage private sector entrepreneurs to establish fuel delivery facilities in the rural areas, subject to the relevant safety regulations;

Promote electricity consumption in rural areas by supporting realistic preferential tariff structures and developing effective cost recovery methods;

Encourage research and development on other forms of energy suitable for the rural areas, particularly biogas, solar and wind energy; and

Encourage local fabrication of simple kerosene and gas stoves and other suitable devices at affordable prices, so as to discourage the use of firewood as main source of domestic energy.

Lack of access to potable water is a critical problem in the rural areas. Consequently, use of unsafe water is a major factor in the high rate of morbidity and child mortality in rural Nigeria. The situation is exacerbated by the inadequacy of sanitation facilities. About half of total households have no access to proper toilet facilities, not even pit latrines. There are generally no organized refuse disposal facilities. The improvement of rural water and sanitation will receive high priority."

National Energy Policy

- p.4 "Currently, fuelwood accounts for over 50% of overall energy consumption in the country and is the dominant source of energy in the domestic sector...[also used in] cottage industries. Over the years the fuelwood supply/demand imbalance in some parts of the country has adversely affected the economic well-being of the people. On the national level, increasing fuelwood consumption contributes to deforestation with consequent desertification and soil erosion."
- p.4 "Solar energy intensity is generally high in the country...Solar energy has great potential for the provision of power for rural development."
- p.4 Traditional sources of energy [fuelwood, charcoal, plant residues and animal wastes] "constitutes over 50% of total energy consumption in the country. ...special attention needs to be paid to the diversification of the energy supply mix in the rural areas."
- p.6 It is necessary to encourage and promote indigenous private sector participation in the [energy] sector."
- p.7 "Objectives of Energy Policy: To ensure the development of the nation's energy resources, with diversified energy resources option, for the achievement of national energy security and an efficient energy delivery system with an optimal energy resource mix; to guarantee increased contribution of energy to productive activities and to national income; to guarantee adequate, reliable and sustainable supply of energy at appropriate costs and in an environmentally friendly manner, to the various sectors of the economy, for national development; to guarantee an

efficient and cost effective consumption pattern of energy resources; to accelerate the process of acquisition and diffusion of technology and managerial expertise in the energy sector and indigenous participation in energy sector industries, for stability and self-reliance; to promote increased investments and development of the energy sector industries with substantial private sector participation; to ensure a comprehensive, integrated and well informed energy sector plans and programs for effective development.

- p. 12 "To replace oil with gas and gas derivatives...The nation shall put in place necessary infrastructure and incentives to ensure adequate geographical coverage of the gas transmission and distribution network."
- p. 13 "Objectives: to expand the utilization of natural gas as industrial and domestic fuel."
- p. 13 "Strategies: encouraging the establishment of the necessary infrastructure for the effective gathering, transmission and distribution of gas nationwide; providing incentives to encourage industrial and domestic consumers to use gas or to convert to gas; providing incentives to encourage the introduction and use of LPG appliances in areas not accessible to natural gas so as to encourage the consumer preference for gas."
- p. 18 "Objectives: ...to utilize coal in meeting the critical national need of providing a viable alternative to fuelwood in order to conserve our forests."
- p. 18-19 "Strategies: providing adequate incentives for the large scale production of coal stoves at affordable prices; ...developing adequate infrastructure for handling and transportation of coal within and out of the country; organizing awareness programs for the use of smokeless coal briquettes as an alternative to fuelwood; ...re-introducing the use of coal for power generation."
- p. 23 "Only about one fifth of [the 10,000 MW hydropower potential] had been developed as at 2001. ...There is an urgent need to develop small hydropower plants for the provision of electricity for the rural areas and remote settlements."

- p.23 "Policies: The nation shall pay particular attention to the development of the mini and micro hydropower schemes."
- p.24 "Objectives: To extend electricity to rural and remote areas, through the use of mini and micro hydro power schemes."
- p.24 "Strategies: ensuring that rural electricity boards incorporate small-scale hydropower plants in their development plans."
- p.25 "Over 60% of Nigeria's population depends on fuelwood for cooking and other domestic uses. ... The rate of consumption of fuelwood far exceeds the replenishing rate to such an extent that desert encroachment, soil erosion and loss of soil fertility are now serious problems in the country. The largest sources of fuelwood at present are from open forests, communal woodlots and private farmlands."
- p.25 "Policies: The nation shall promote the use of alternative energy sources to fuelwood; the nation shall promote improved efficiency in the use of fuelwood."
- p.25-26 "Objectives: to greatly reduce the percentage contribution of fuelwood consumption in the domestic, agricultural and industrial sectors of the economy; ...to facilitate the use of alternative energy resources to fuelwood; to reduce health hazards arising from fuelwood combustion."
- p.26 "Strategies: establishing micro-credit facilities for entrepreneurs, especially for women groups, for the establishment and operation of commercial fuelwood lots and the production of renewable energy devices and systems; developing an appropriate pricing structure to encourage substitution from fuelwood to alternative fuel types; ensuring the availability and effective distribution of alternative energy sources to fuelwood at all times; disseminating the alternative technologies to fuelwood through extension programs, pilot plant, etc.."
- p.27 "Photo-voltaic (PV) power may be utilized in low to medium power applications and in remote areas, in such uses as communication stations, rural television and radio, water pumping, refrigeration, etc, which require power of the order to 1-10 kW. It may also be used for power supply to remote villages not connected to the national grid."

- p.29 "Policy: The nation shall effectively harness non-fuelwood biomass energy resources and integrate them with other energy resources."
- p.29 "Objectives: to promote biomass as an alternative energy resource especially in the rural areas."
- p.31 "Policies: The national shall commercially develop its wind energy resource and integrate this with other energy resources into a balanced energy mix; the nation shall take necessary measures to ensure that this form of energy is harnessed at sustainable costs to both suppliers and consumers in the rural areas. Objectives: to develop wind energy as an alternative energy resource; ...to use wind energy for provision of power to rural areas and remote communities far removed from the national grid."
- p.36 "Policies: The nation shall continue to engage intensively in the development of electric power with a view to making reliable electricity available to 75% of the population by the year 2020...Objectives: to provide electricity to all state capitals, local government headquarters as well as other major towns by the year 2010; to stimulate industrialization in the rural areas in order to minimize rural-urban migration."
- p.37: "Strategies: providing appropriate incentives to entrepreneurs to ensure adequate returns on investment; providing appropriate financing facilities to support indigenous investments in the electricity industry; encouraging off-grid generation and supply of power in remote or isolated areas; establishing a Rural Electrification Fund to facilitate electrification in the rural areas; establishing a reduced tariff regime for very low income and specially handicapped electricity consumers and a mechanism for funding the subsidy."
- p.39 "Strategies: ensuring the development of appropriate energy inputs for small scale rural industries."
- p. 40 "Nigeria is an agrarian country... Most Nigerian farmers, who produce over 80% of the food needs of the country, live in the rural areas with little access to electricity and petroleum fuels and therefore rely mainly on manual techniques and solar energy in

executing most pre- and post-harvest agricultural operations. In developing an energy policy framework for the agricultural sector, the socio-economic status of the key players in the sector (e.g. rural farmers) as well as the energy conservation parameters have to be in proper focus."

- p. 40-41 "Policies: The nation shall ensure adequate and reliable supply of energy to the agricultural sector; the nation shall ensure that appropriate sources of energy are utilized judiciously and efficiently for the overall agricultural activities, with minimum harm to the environment; to enhance the productive capacity of rural farmers who mainly rely on the cumbersome manual methods of farming."
- p. 44 "Policy: The nation's energy resources shall be exploited in an environmentally safe and sustainable manner."
- p. 45 "Strategies: Providing viable alternatives to fuelwood in order to minimize deforestation and decelerate the rate of desert encroachment, erosion and deforestation; utilizing appropriate technologies in the exploitation of the various energy resources to minimize the harmful effects on the environment."
- p. 46 "There is considerable energy loss due to inefficient traditional three-stone stoves, used for cooking mainly in the rural areas. ...It is ... imperative to promote energy conservation and efficient energy utilization in all sectors of the economy."
- p. 51 "Considering the risk element involved in energy projects, investments in the sub-sector should be capable of yielding high rates of return and fast pay back periods in order to attract investors. Owing to other competing needs, government alone cannot continue to provide the major finance for the energy sector activities. Hence private sector participation is necessary and imperative."
- p. 51 "Policies: The nation shall explore and adopt all viable financing options from local and international sources for cost effective exploitation of its energy resources."
- p. 51-52 "Objectives: To ensure the availability of adequate funding for the energy sector; to ensure continuity in the funding of projects in

- the energy sector; ...to ensure that the energy supply options adopted are the most cost-effective for the country."
- p. 52 "Strategies: Providing fiscal incentives for prospective investors in the energy sector; reviewing the existing laws and regulations for the operation of energy sector industries so as to increase private sector participation in the industries; ...encouraging energy firms to source development funds from the Nigerian capital market."
- p. 53 "As private sector participation in the energy sector is increased and government investments in the sector are privatised, the ability of the indigenous private sector, including ordinary Nigerian citizens, to participate and compete in the process should be encouraged so as to allow for a secure and healthy development of the energy sector."
- p. 53 "Policies: Indigenous companies and individual Nigerian citizens shall be fully and effectively integrated into ownership participation in the deregulated and privatised energy sector."
- p. 53 "Objectives: to ensure broad-based participation of Nigerians in the investment opportunities in the energy sector."
- p. 53 "Strategies: establishing a financing mechanism which will support indigenous investments in the energy sector industries; putting in place other incentives, appropriate to each energy sub-sector, which will promote indigenous private sector participation and competitiveness in the sub-sector."
- p. 61 Short to Medium Term Priorities: "Development and implementation of appropriate packages to enhance the utilization of renewable energy to solve rural energy problems and to make possible the extension of commercial energy and the associated technology to the rural sector."

Electric Power Sector Reform Bill, 2003

- p. 19 "Objects and functions of the [NER] Commission: ...to maximize access to electricity services, by promoting and facilitating consumer connections to distribution systems in both rural and urban areas; to ensure that an adequate supply of electricity is available to consumers."

- p. 33 "Notwithstanding subsection (1), a person may construct, own or operate an undertaking for generating electricity not exceeding 1 megawatt (MW) in aggregate at a site and/or an undertaking for distribution for electricity with a capacity not exceeding 100 kilowatts (kW) in aggregate at a site, or such other capacity as the Commission may determine from time to time, without a license."
- p. 43 "Prices for the activities [generation and trading, transmission, distribution and system operation] shall be regulated according to one or more methodologies adopted by the Commission for regulating electricity prices. Such tariff methodologies shall: allow a licensee that operates efficiently to recover the full costs of its business activities, including a reasonable return on the capital invested in business; provide incentives for the continued improvement of the technical and economic efficiency with which the services are provided; provide incentives for the continued improvement of quality of services; give to consumers economically efficient signals regarding the costs that their consumption imposes on the licensee's business; avoid undue discrimination between consumers and consumer categories; and phase out or substantially reduce cross subsidies."
- p. 50 "Consumer protection standards: The Commission shall develop, in consultation with the licensees, the following materials: customer service standards; customer complaint handling standards and procedures; codes of practice for the provision of assistance to special needs customers, such as the blind or disabled, the elderly or severely ill; procedures for dealing with, and assisting where necessary, customers who have difficulty paying bills; procedures for applying for electricity service; procedures for disconnecting non-paying customers or for those in breach of other terms and conditions of an applicable tariff or contract; and the information to be provided to consumers and the manner of its dissemination."
- p. 50 "Performance standards and codes: The Commission shall develop, in consultation with licensees and other interested parties, the following performance standards and codes: standards of performance in connection with the provision of electricity supply services and in connection with the promotion of

the efficient use of electricity by consumers; such technical codes and manuals as may be required for the safe, reliable, and efficient operation of the system; such other standards, codes, manuals as the Commission may require."

- p.51 "The Commission shall also have a ongoing responsibility to consider, in respect of services in competitive markets, the prevention or mitigation of abuses of market power, in its decisions and orders regarding matters such as, but not limited to, license applications and the grant of licenses; license terms and conditions; the setting of prices and tariffs; and whether or not to approve a merger, acquisition or affiliation."
- p. 52 "The Power Consumer Assistance Fund may be used to subsidize underprivileged power consumers as specified by the Minister."

p. 54-57 "PART IX: RURAL ELECTRIFICATION

Establishment and Purpose of the Rural Electrification Fund

There is hereby established an Agency, to be known as the Rural Electrification Agency, which shall be a body corporate capable of suing and being sued in its corporate name and, subject to this Act, of performing all acts that bodies corporate may by law perform. The chairman, vice-chairman and members of the Agency shall be appointed by the Minister and the Minister shall approve the corporate governance arrangements for the Agency. The headquarters of the Agency shall be at Abuja.

The Rural Electrification of Agency shall set up and administer a fund under the name Rural Electrification Fund to be used for the purposes specified in subsection.

The Rural Electrification Fund shall consist of the following capital and assets

- any surplus appropriated pursuant to section 45;
- any fines obtained by the Commission pursuant to this Act;
- any donations, gifts or loans made by international agencies, State Governments, the Federal Government, local communities, businesses or any other entity;
- the contribution that may be made pursuant to section 82; and interest and other benefits accrued to the Rural Electrification Fund.

The purpose of the Rural Electrification Fund shall be to promote, support and provide Rural Electrification programs through public and private sector participation in order to:

- i) achieve more equitable regional access to electricity;
- ii) maximise the economic, social and environmental benefits of Rural Electrification subsidies;
- iii) promote expansion of the grid and development of off-grid electrification; and
- iv) stimulate innovative approaches to Rural Electrification; provided that no part of the Rural Electrification Fund shall be used as subsidies for consumption.

The President shall, not later than one year from the date of commencement of this Act, prepare and submit a sustainable and co-ordinated Rural Electrification Strategy and Plan for Nigeria to the National Assembly. In preparing the Rural Electrification Strategy and Plan the President shall invite and consider the submissions of the Commission and the Rural Electrification Agency.

The Rural Electrification Agency, on such date each year as may be specified by the Minister, shall submit to the Minister annual audited statement of accounts of the Rural Electrification Fund. The accounts shall be audited by auditors appointed by the Rural Electrification Agency with the approval of the Auditor General of the Federation. A copy of such accounts shall be forwarded by the Minister to the Commission within one month of their receipt by the Minister.

The Minister shall, once in a quarter, submit to the National Assembly reports, prepared in consultation with the Rural Electrification Agency and the Commission, 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.

The Minister shall periodically evaluate the impact of the Rural Electrification program.

Contribution Rates for Rural Electrification: 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:

- eligible customers; and
- consumers (other than the underprivileged power consumers whose power consumption may be required to be subsidized), on the Commission being satisfied that retail power tariffs for such consumers have reached a level where they reflect the cost of electricity.

While determining the contribution rates pursuant to subsection (1), the Commission shall take into consideration the impact of such rates on eligible customers and consumers who have to assume the burden of such contributions.

Contribution Payments for Rural Electrification: All consumers and eligible customers liable to make contributions pursuant to subsection (1) of section 81 shall make contributions to the Rural Electrification Fund at the rates and for the duration specified by the Commission pursuant to subsection (1) of section 81.

In making contributions to the Rural Electrification Fund pursuant to subsection (1), eligible customers shall pay contributions directly to the Rural Electrification Agency. Consumers shall pay contributions to their distribution licensee and the distribution licensees shall compile such contributions and send them to the Rural Electrification Agency. All collections and payments shall be made in accordance with procedures established by the Rural Electrification Agency.

Payments from the Rural Electrification Fund

The Rural Electrification Agency shall, in consultation with the Minister,

1. establish objective and transparent criteria for the geographical allocation of resources from the Rural Electrification Fund. Such criteria shall be determined taking into account:
 - a. the need for financial support from the Fund;

- b. progress in increasing Rural Electrification achieved through previous disbursements from the Fund;
 - c. the existence of local matching funding.
2. develop an open, competitive and transparent procedure for making disbursements from the Rural Electrification Fund to individual projects, including the establishment of eligibility and selection criteria.
- The eligibility criteria for the purposes of subsection (1) (b) shall be determined taking into account
 - 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; and
 - the level of community and investor commitment to the proposed activity.

The selection criteria for the purposes of subsection (1)(b), and the quantum of disbursement, shall be determined taking into account:

- the resources available from the Rural Electrification Fund;
- the cost of each new connection created under the project; and
- other objective criteria that the Rural Electrification Agency may determine, such as tariff levels and quality of service.

Non-payment Offence: Any person who fails to pay to the Rural Electrification Agency or a distribution licensee, within the prescribed time period, any amount owing under this Part shall be liable to a fine not exceeding three times the amount owed."

Rural Development Sector Strategy

- p. 4 "The inequities created by policies have, in turn, resulted in market inefficiencies which have themselves created further gaps in income among groups of rural Nigerians." [for our work, the implication might be, for example, do not cherry-pick the rich rural customers or local government HQs, figure out how to get energy services to all.]

- p. 4 "The Role of the State: New roles are needed in: ... (iii) infrastructure development including rural roads, power, communications, water..."
- p. 8 "Existing policies provide adequate protection but are not a complete environment for farmers to grow sustainably. Other factors interact with protection and block better agricultural performance. These factors include rural infrastructure..."
- p. 17 "Many federal parastatals do jobs that the private sector can do. Those parastatals, therefore, should be: (i) privatised if there is no strong public goods argument for them; and (ii) transferred to the states or the LGAs if the public goods argument is not national."
- p. 18-19 "End the costly duplication among public agencies: A major obstacle to rural progress is duplication of effort among institutions...When multiplicity of agencies becomes unavoidable, duplication should be limited and there should be proper functional coordination."
- p. 21 "There are at least 21 major NGOs operating in Nigeria with 12 of them involved in the provision of micro finance services. However, they are seriously constrained mainly by their limited outreach and by their dependence on external funding. Nonetheless, some NGOs have considerable potential and need to be a major part of a national micro finance strategy."
- p. 22 "To strengthen the development of rural finance in Nigeria, the following actions must be taken: ...invest substantially in physical and institutional infrastructure to significantly reduce transaction costs; create an enabling environment to facilitate expansion of commercial bank rural outreach."
- p. 23 "Create a powerful central research agency: There is a lack of overall leadership in research policy for the rural sector. It is recommended that the Agricultural Research Council (ARC) be converted into a small high quality, apex body to lead research policy and to co-ordinate funding of research in National Agricultural Research Institutes (NARIs) and universities, through competitive and contractual funding mechanism."
- p. 27-28 "Natural Resource Management: ...the following strategic

objectives should be pursued: (i) maximizing the use of renewable resources while minimizing its negative impact on the poor; (ii) minimizing the depletion of renewable resources; (iii) minimizing pollution and its negative impact on the environment, human health and ecosystems as well as decentralizing responsibilities for management of natural and financial resources to community level institutions."

- p.29 "The primary demand for non-farm outputs is rural, implying that increased agricultural incomes are necessary for the development of the non-farm sector. This also implies that some attention must be placed on identifying new markets and distribution channels for rural non-farm activities in the urban and export markets." [for our work, this could mean not just generation of electricity in rural areas for rural areas, but also for "export" to urban centres.

To a large extent, much of the legislation relevant to the rural energy sector has already been established, or is foreseen by the Electric Power Sector Reform Bill. The following are brief descriptions of the existing legislation that are considered relevant to the development of rural energy policy in Nigeria:

Primary Legislation

- **Constitution of the Federal Republic of Nigeria** is the supreme law and grants State and Federal Governments powers to enact laws regarding electricity.
- **Electricity Act (1929)** permits regulation and control of generation, supply and use of electrical energy, including electrical installations.
- **Electricity (Amendment) Decree 1998** is the most recent of four amendments to the Electricity Act of 1929. The 1998 Amendments permit that the granting of licenses may be extended to persons and private entities other than NEPA, the State governments, or their agents. The licenses do not grant exclusive electricity supply rights within the given region. The Amendment also grants a number of regulatory responsibilities to the Ministry of Power and Steel (discussed in more detail below).
- **National Electric Power Authority Act (1972)** established NEPA to develop and maintain an efficient, coordinated, and economic national electricity supply. It establishes NEPA's authority and procedures in undertaking its responsibilities.
- **National Electric Power Authority (Amendment) Decree 1998** repealed the elements of the NEPA Act that restricted competition in the electricity generating sector. The NEPA Act reiterates the point from the 1998 Electricity Amendment Decree that licenses may be granted to entities other than the Authority or Government.

The NEPA Act also reaffirms the power of the Authority, while repealing the provisions that made it difficult to sue NEPA or its officials for damages due to breach of duty or negligence. (Note: In accordance with the Electric Power Sector Reform Bill 2003, upon the transfer of the assets and liabilities of NEPA to an initial holding company that maintains an interim license, both the Electricity Act and the National Electric Power Authority Act shall be repealed.)

- **Energy Commission of Nigeria Act** established the Energy Commission of Nigeria and assigned it responsibility for overseeing developments in the energy resources sector, and overall planning for the energy sector. The Commission is comprised of professionals from a wide range of government, academic or business organizations.
- **Federal Environmental Protection Act** established the Federal Environmental Protection Agency (FEPA), the Federal "watchdog" responsible for ensuring compliance with environmental laws and regulations. The FEPA Act stipulates the Agency's powers and functions, as well as procedures for setting environmental standards. The FEPA Act also prohibits the discharge of hazardous substances into the air or water and spells out the penalty for such actions. The Environmental Impact Assessment Decree (1992) established procedures for conducting environmental impact assessments before public or private projects are begun. The Decree grants FEPA certain powers to facilitate such assessments.
- **The Minerals Act and the Petroleum Act** stipulate that all minerals, including those used to generate power, such as coal and gas, within Nigeria's territories, belong to the Federal Government of Nigeria, unless an express grant is made to another entity.

Secondary Legislation

- **Abuja Environmental Protection Act**
- **The Companies and Allied Matters Act** established the Corporate Affairs Commission, to provide services including: incorporating companies, registering business names and incorporating trustees of certain communities, bodies and associations.

- The **Companies Income Tax Act** regulates taxation of incomes and profits for trade and business conducted in Nigeria.
- The **Land Use Act** grants the State ownership control and management of all land in Nigeria, including power to monitor and restrict land transactions and development throughout Nigeria.
- The **Nigeria Atomic Energy Commission Act** established the Nigeria Atomic Energy Commission to develop and oversee all matters relating to the peaceful use of atomic energy.
- **Venture Capital (Incentives) Act**
- **Environmental Pollution Law**
- **Nigerian Urban and Regional Planning Act**
- **Trade Disputes (Essential Services etc) Repeal Decree** empowers the President to end industrial action (by trade unions or associations) that disrupts essential services.
- The **Labour Act** repealed and consolidated labor laws.
- **Utilities Charges Commission Act**
- **Investments & Securities Act**
- The **Rural Electricity Board Law** granted RE Boards the authority to establish and manage electricity undertakings in areas of the state unserved by NEPA.



RURAL ELECTRIFICATION AGENCY

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