Mali’s Rural Electrification Fund

Presentation by Messrs.
Sissoko Adama, Director of Rural Energy
and
Alassane Agalassou, SAMPER

Malian Agency for Household Energy and Rural Electrification
AMADER

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Presentation Overview

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  - Objectives
- The Rural Electrification Fund (REF)
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  - Pricing of electricity services
  - Grants
  - Customer financing
  - Allocation of responsibilities with the Electricity Regulatory Entity
- Issues
  - Problems encountered to date
  - Solutions
- Looking ahead
Introducing AMADER

- Established in May 2003 as a separate Government Agency (Law N°03-006 of May 21, 2003)

- AMADER:
  - (1) promotes electrification in rural and suburban areas;
  - (2) works with all types of operators, national and international private operators, NGOs, decentralized groups, cooperatives, etc.
  - (3) provides technical assistance and financial support (Investment subsidies)
  - (4) acts as *de facto* regulator in rural and suburban areas

- Objective: The objective fixed by the Malian Government is to provide access to electricity to 10% of the population in 2010, 55% in 2015 (from 5% in 2007).
Strategy

Dual Approach:

- **Top Down: Priority Electrification Zones (“ZEM”)**
  
  - AMADER solicits bids for the electrification of designated areas. Selection through direct competition among bidders. Promoters submit proposals in response to calls. Project selected on the basis of lowest tariff.
  
  - In poorer rural areas, where sponsors are hard to come, REF finances feasibility studies and put projects up for bidding. Lowest tariff wins.

- **Bottom up: “spontaneous” private initiative (“PCASER”)**
  
  Projects selected based on promoters’ ability to develop and operate a viable project with a fixed investment subsidy (80%, $500,000 max).
Rural Electrification Fund (REF)

- REF was established by Law N°

The purpose of the REF is to:
- Make rural electrification projects commercially viable
- Make tariffs affordable for an important number of rural people
- Utilize subsidies to pull down investment costs
- Boost public-private partnership

- AMADER’s CEO is the Chief executive
- AMADER’s board is composed of 9 members
- REF shares staff and operating budget with AMADER
- Original REF endowment: US$ 25 million
- REF resources: Government of Mali budget allocation, donors’ grants, operators’ fees, bidders’ administrative fees, bidders’ security deposits, penalty fees, AMADER’s budget surplus, 25% of revenues of AMADER subsidized projects sold, sales tax levied on AMADER-regulated operators, Clean Development Mechanism financings, annual fees, investment income, local government contributions, other resources endowed to AMADER
- No surcharge or tax on general electricity consumption that provides funding for REF
AMADER /REF relies on a competitively-selected commercial bank to disburse the grants on contract basis respect to the internal operational manual of REF.

This Bank hasn’t responsibility as assessment of the financial viability of proposed projects either before or after the award of the grant.

The contract structured between the AMADER(REF) and the Bank is based on the fact that:

(i) Principal account as well as the subsidiary accounts of REF will be remunerated by the rate of 3.5% per year
(ii) Deposit account in the long term will be remunerated by the rate of 4.5% /Year
(iii) The Bank is not contractually remunerated by an annual fee, based on the amount of the investment subsidy.

So far, loans were extended by only two commercial banks in Mali, though mostly to the largest operators.

Smaller operators experience difficulty accessing commercial bank credit by lack of the creditworthiness needed and new arrangements are needed for them:

• For example, They have no access to leasing finance to acquire power generation and distribution equipment in Mali. The arrangement of corporate specializing in leasing power generation and distribution equipment should be a great opportunity to increase access to electricity in Malian Rural areas.
REF: Functions

REF does:

- Provide direct and indirect investment subsidies;
- Project feasibility studies;
- Master plans for rural electrification;
- Costing of generation and grid investment;
- Costing of consumer connection investment;
- Costing of Solar Home Systems;
- Promotion services for RE;
- Operators training (tech. + management);
- In 2007, 4 grants were awarded totaling US$1.815 million (PCASER) and MFP(29)
REF in Numbers

- Number of projects AWARDS:
  - 2005: 32
  - 2006: 46
  - 2007: 33
  - TOTAL: 111

- Cost in billion XOF:
  - REF FUNDING: 12,896 (75%)
  - OPERATORS PARTICPATIONS: 4,312 (25%)
REF: Subsidy Recipients

- Private operators: 84% (31)
- Local communities: 8% (3)
- Economic Interest group: 8% (3)
- Recipients must be Malian entities
- Recipients may purchase electricity from wholesale generators (EDM)
- REF don’t provide any grants to the state-owned enterprise for rural electrification activities specifically unless creating corporate specially for Rural Electrification, than can receive grant funding from REF
## Electricity Pricing

- Billing on a metered and a non-metered basis
- Tariffs differentiated by type of supplier
- Diesel tariffs range from 190 XOF/kWh to 225 XOF/kWh
- National corporate tariffs: 100 XOF to 135 XOF/kWh and fixed charge of 1237 XOF/kW/month

<table>
<thead>
<tr>
<th>TARIFF in XOF</th>
<th>average monthly fixed charge/</th>
<th>XOF/ kWh Variable tariffs Off grid Diesel</th>
<th>XOF/ kWh Variable tariffs grid</th>
<th>Connection charge XOF</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 Prepaid</td>
<td>2500</td>
<td>0</td>
<td></td>
<td>15 000</td>
</tr>
<tr>
<td>S2 Prepaid</td>
<td>5000</td>
<td>0</td>
<td></td>
<td>15 000</td>
</tr>
<tr>
<td>S3 Prepaid</td>
<td>9000</td>
<td>0</td>
<td></td>
<td>15 000</td>
</tr>
<tr>
<td>Metered customers</td>
<td>3000</td>
<td>200</td>
<td>135</td>
<td>15 000</td>
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Competitions are held for grants. The methodology is based on three approaches at the end of which a Rural electrification permit and subsidy will be given exclusively to one operator by the Minister responsible for energy on proposal of AMADER:

1- Selection of Project through direct competition between proposed Projects (top down process or ZEM process). Promoters submit Proposals in response to call for tenders. Projects are selected on the basis of Lowest tariffs.

2- Selection of projects through the ability of the promoter to get commercial viable Project on the basis of fixed subsidy level (80% with max 500 000 USD) in spontaneous scheme.

3- Call for Proposals

For call for proposal AMADER awards a Rural electrification permit to the candidate having formulated a better offer (cheaper) in comparison with AMADER’s proposition. Lowest tariffs asked wins. For use of renewable generation, REF can accept if it is justified, extra financial benefits which is provided by GEF arm of Malian REF.

<table>
<thead>
<tr>
<th>Cost/costumer \ Rx BT</th>
<th>Cost/costumer PV</th>
<th>Cost/costumer other invest</th>
<th>Cost/costumer</th>
<th>Subsidy/cost</th>
</tr>
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<tbody>
<tr>
<td>XOF</td>
<td>464 230</td>
<td>471 022</td>
<td>36 879</td>
<td>509 209</td>
</tr>
<tr>
<td>USD (1 USD = 700 XOF)</td>
<td>663</td>
<td>673</td>
<td>53</td>
<td>727</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>%Grants</th>
<th>%equity or loans</th>
<th>Total Invest</th>
</tr>
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<tr>
<td>74.47%</td>
<td>25.40%</td>
<td>100%</td>
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For applying for a grant, it is required to show to the REF: a certificate of registration of incorporation in Mali; a business plan (technical, economics and environmental surveys); equity or loans (minimum 20%) indicated in the business plan must be paid.

A grant agreement is signed with each operator once the grant has been awarded. The grant monitoring and verification are conducted as follows: subsidy of investments granted by REF is versed in an Account subjected to the double signature of Operator and AMADER.

The subsidy of AMADER will be withdrawn according to the state of progress of the work conducted by the operator respecting the following principle:

- a maximum payment of 25% on the basis of report of the payment of the counterpart of the operators;
- The subsidy of AMADER will be withdrawn according to the state of progress of the work of the operators in accordance with the agreed chronogram between Operator and AMADER and by respecting the following principles:
  - reception by AMADER of the sections of work according to stages' of realization
  - a presentation of the performance bond of completion of the work corresponding to 5% of the value of the investments to the provisional acceptance
Customer Financing

According to the ongoing project the typical connection fee charged to new customers is XOF 15 000 or USD 30. The operators are free to allow new customers to pay this fee in several installments and in general for those operators who allow, time period goes from 3 to 6 months and this decision is at the total discretion of the operator.
AMADER is Electricity Regulatory Entity in rural areas. The regulatory Committee of Water and Electricity has responsibilities for grid and off-grid recipients of EDMsa (National utility of Water and Electricity).

AMADER approves the prices that REF recipients can charge their customers in rural areas:

- Minimum standards and quality of service standards that a rural electrification operator must comply with is indicated in contract documents of operators and are indicated during the process of preparation of the business plan.
- For operator that is buying electricity at wholesale from the main grid and then reselling it at retail to its own customers, contract of buying electricity is required to apply to REF;
- If the off-grid or on grid operator goes out of business, the contract signed indicated that AMADER will organize a preselection of the candidates to the resumption of the authorizations and the repurchase of the equipment on the basis of criterion of competence. In the second time, the candidates selected at the end of this preselection will be invited to propose a price of repurchase of the equipment. The candidate proposing the highest price will be selected with equal tariffs. The price perceived by the outgoing operator will be tiny room of the amount necessary to the possible rehabilitation of the equipment assigned directly to the production and the distribution under the control of the AMADER.
- If the outgoing operator profited from subsidies on behalf of REF to finance his activities, the AMADER will receive 25% of the gross price offered which will be versed in REF.
Encountered Difficulties

The difficulties encountered in the development of the Energy Services are inter alia:

- high number of proposals for a project for which the AMADER does not have financing.
- difficulties for AMADER, in comparison with many projects PCASER and PTF in progress, to have human, material and financial resources necessary to the realization and the follow-up.

Actions taken to try to solve these problems:

- Information of the Government for the mobilization of new financings;
- The implication of the Government in establishment of partnership between Local banks and the financial Institutions of Ecowas for the installation of credit guarantees making possible to the operators to access to credits under better conditions;
- Reinforcement of the AMADER in terms of human, material and financial resources allowing him to fully achieve its mission of follow-up of the projects in progress;
- Requests of financing addressed to several financial institutions for the financing of the Rural Electrification.
**Challenge**

- The rate of electrification of Mali is 17% on a national scale and only 5% in rural areas.
- The share of renewable energies is barely 1% in a context of abundance of these resources on the own territory.
- Prices of the petroleum products which weigh on the balance of payments of our finance public.

**Future**

- To carry the rate of electrification to 10% in 2010 and 55% into 2015. For that Mali needs to scale up a vast program whose studies are already done.
- New tracks of access to the financings of the private operators who contribute to this ambition must be explored.
- Rurale electrification Fund of Mali has needs to be perennialize with new approaches and a constant engagement of our partners like the World Bank.
Thank you for your attention