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Government of Guyana Strategy for Underserved Areas Electrification Programme

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GUYANA

UNSERVED AREAS ELECTRIFICATION PROGRAMME

Government of Guyana Strategy

Background and Current Situation

1. Electrification of rural and other unserved areas has been an important developmental priority of successive Governments of Guyana, but the shortage of resources and lack of a clear strategy and policies have curtailed its advance. After funding about 4,000 new connections in East Berbice during 1996-1997 with monies from the Treasury, the Government's activities again came to a stand-still when available financing was exhausted and managerial, operational, and financial demands were too much for the state-owned Guyana Electricity Corporation (GEC), the principal responsible entity for system extension. Grid extensions in recent years thus have been limited to middle- and upper-income consumers in new housing developments where developers of such housing schemes would have arranged for and paid in full for the cost of connections.

2. Following major legal/regulatory and institutional reforms accompanying GEC's privatization and the creation of Guyana Power and Light, Inc. (GPL) in 1999, the Government has once again attached importance to extending electricity supplies to rural and isolated areas, in the context of its Unserved Areas Electrification Programme (UAEP), with the long-term goal of supplying the entire population. This is to be undertaken both through extending the existing distribution systems now owned and managed by GPL, and through the setting up of isolated generation and distribution facilities in areas where grid extension is not economically viable. GPL as part of its 1999 license is committed to carrying out an electrification programme, in the context of its first five-year development and expansion program, with the Government and beneficiaries supplementing GPL's financial contribution of 25% of the cost of the project but up to a maximum of US\$ 1mm/year from revenues from presently served customers. The Government and GPL have reached an agreement on the principal terms and conditions of UAEP, which specifies the company's commitments as well as the modalities of contributions by beneficiaries. The rural electrification programme envisaged in the context of GPL's licence has been modified to widen the concept of an electrification programme as one that will include all unserved areas in need of assistance and where extension of existing distribution systems is feasible.

3. There is widespread demand for electricity all across the country and the benefits commonly associated with it are considerable. Persons in unserved areas with whom discussions have been held seem willing to pay a connection charge and other associated charges, which they could afford, for access to electricity.

4. The initial focus of the Government's electrification program is on projects close to existing distribution systems, as those are least-cost, involve large numbers of additional consumers, and provide larger benefits relative to isolated schemes. The program is planned to start later in 2001 with electrification of ten villages in East Berbice, to be followed by other long outstanding and populated areas, new housing schemes and upgraded squatter settlements in periurban and rural areas particularly in Regions 2, 3, 4, 5, 6 and 10. Included in this programme will be schemes, which were developed under the Ministry of Housing and Water's accelerated housing program supported through IDB's Low Income Housing Project. The Government is seeking funding from IDB¹ to finance grid extension and provide for a study of possible energy sources for various situations in the hinterland and seek to establish a number of pilot projects. The Government will overtime seek additional funding to support the development of small isolated systems in the hinterland.

5. GPL's Business Plan for the period 2001-2005 projects investment of about US\$93 million. The Plan covers a range of infrastructure development including rehabilitation of existing generation capacity and installation of new generation, interconnection of the Demerara and Berbice systems at the transmission level, reinforcement of its existing networks and connections of over 40,000 new customers as part of Government and GPL's UAEP. In the context of UAEP, GPL will invest a maximum of US\$1mn/year, for a period of five years ending December 31, 2005 (to be provided over time as required), which corresponds to no more than or at maximum 25% of planned overall expenditure on electrification. The remaining 75% is to be provided by Government and customers. Government's financing of such investments will not affect the ownership structure of GPL. The Government has provided G\$200mn (US\$1.1mn equivalent) to supplement GPL's and customers financing of the first year's works. GPL will periodically assess the potential for new customers ("Estimated Potential Customers") who would qualify under UAEP and will accordingly adjust its planning parameters as the Program evolves. A separate project implementation unit will be established within the Company, in order for the Company to meet its commitments under the Program, i.e., in regard to project planning and design, administration of funds for electrification, procurement of materials and services, selection and supervision of sub-contractors, training of technicians, and development of a database. GPL will regularly report to the Government on the progress of UAEP implementation.

Principal Issues to be Resolved

6. The Government is in the process of defining more clearly the priorities of UAEP, as part of its socio-economic development and poverty alleviation goals and consistent with its overall financing plan, available resources, and the sector institutions' absorptive/implementation capacity. The Government has outlined the general objectives, institutional responsibilities, project selection criteria, and principal

¹ Expanding the electricity system to unserved areas, especially to low-income consumers along the Coast where population density is high, is a logical extension of IDB's strategy to reform the sector and to support the Government's overarching goal of socio-economic development and poverty alleviation.

operational parameters for UAEP. The Prime Minister (OPM) has been assigned principal responsibility for the electricity sector; such responsibility includes developing sector strategies and policies. GoG and GPL have reached an agreement on several key issues that aim to ensure that UAEP overall and the individual projects are sustainable. These issues relate to (i) a more precise definition of UAEP operational objectives, priorities, and scope, including the criteria for selection and sequence of areas to be electrified; (ii) institutional / administrative, economic/ financial, and operational requirements for project preparation, implementation, and monitoring/supervision of sub-projects; and (iii) criteria for, and sources of, project financing.

Other issues to be resolved relate to (i) developing a plan for the administration / management of the programme and procurement procedures that will conform with IDB's procurement policies and procedures; (ii) a review of GPL's development and expansion programme to ensure that the anticipated load growth is catered for; (iii) developing a training programme to ensure that adequate skilled labour is available to achieve the completion of the UAEP within the specified time period.

7. Government will examine ways of providing electricity to unserved areas in the hinterland in the most cost effective, sustainable and environmentally benign manner while at the same time increasing benefits associated with electricity. The cost of providing electricity is heavily influenced by the design of the distribution system. Ways of reducing costs associated with transmission and distribution will be explored.

8. Under the programme Government will provide project beneficiaries with a subsidy in respect of the capital costs of their connection (averaging about 70%). Customers will however be expected to pay the full operation and maintenance costs as tariff subsidies will be phased out over time. To this end a study will be prepared to assess the economic costs of the system (i.e., short-run and long-run marginal costs of electricity generation, transmission and distribution) for different sub-systems, geographic regions, and consumer groups.

9. GPL is currently negotiating financing for its planned generation expansion programme. Government will monitor progress on this expansion to ensure that sufficient generation capacity is available to meet anticipated load growth, which will result from the UAEP.

Overall Electricity Sector Development; UAEP Rationale and Design

(a) UAEP and individual sub-projects will accelerate socio-economic development potential and quality of life of hitherto unserved areas and populations, in a manner consistent with the Government's overall macroeconomic strategy for poverty alleviation, through delivery of basic infrastructure services, including electricity, which is critical for economic development and social empowerment by means of improvement in education, health and water supply. The Government considers it essential that future electricity generation and transmission capacity will be adequate to meet additional demand on the systems, this will be reviewed as the UAEP is implemented. UAEP and

individual projects will be designed such that they can be accommodated within the constraints of the Government's financing plan, resource availability, and the sector's absorptive capacity.

(b) The Government will ensure that local communities/ local governments and other stakeholders participate in setting priorities for infrastructure investments to be undertaken in their respective geographic areas.

(c) The Government will apply the policy and institutional measures necessary to reduce or remove policy and market barriers to expanding electricity supplies and use. These measures include: (i) developing adequate project delivery mechanisms, (ii) supporting early stakeholder participation in decision making, (iii) applying sustainable subsidization policies for a limited period, (iv) coordinating UAEP with other infrastructure development programs, and (v) promoting economic activities in areas considered for electrification that will enhance the income level of the populace and their ability to pay for electricity at economic cost.

(d) The Government will insist that the institutional, economic/financial, and operational requirements for meeting the UAEP/individual project objectives and implementation schedules are realistic and can be met, with due consideration to the resource requirements of complementary/competing projects in other sectors.

(e) The Government anticipates that the UAEP could create employment and develop expertise in infrastructure activities.

(f) The Government will assess whether the implementation of UAEP requires a modified or specific legal/regulatory framework, or whether it can be accommodated within the existing sector framework.

Project Selection

The Government has identified the following preliminary criteria for project selection. However, the criteria may be amended somewhat based on project preparation studies being conducted as part of the concessionary loan programme with the IDB.

(g) Demand-related issues - economic viability: The Government will give priority to those projects that primarily aim at enhancing productive capacity in areas at, or close to, economic take-off, rather than merely providing social amenities in situations where electrification is not economically viable. Projects will be based on pre-investment studies and will need to meet minimum economic/financial and social criteria in order to be considered. As an important project selection criterion, synergies (to be mobilized through supporting other socio-economic infrastructure, e.g., housing, water and sewerage, transport, and education and health services) will be considered.

(h) Supply/ technology-related issues: While UAEP's initial emphasis is on expanding existing distribution grids, options and requirements for electrifying isolated

hinterland areas also will be evaluated and tested through demonstration projects. Where feasible, appropriate forms of renewable energy technology will be considered for isolated systems, based on assessments of the natural resource base and their environmental impact.

(i) Economic evaluation/ cost-benefit analysis: These evaluations will be undertaken in regard to (i) market potential (beneficiaries' ability and willingness to pay for electricity; their future economic/financial potential and electricity demand), (ii) costs of electricity supplies (investment cost of extensions and connections; operating and maintenance cost), and (iii) electricity pricing and subsidization. Subsidies will be limited to a portion of investment cost whereas operation and maintenance cost need to be fully recovered from the beneficiaries through tariffs. Appropriate policies and methodological tools will be applied to ensure an efficient allocation of subsidies. The extent of financial contributions by beneficiaries to investments will be an important criterion for project selection.

(j) Environmental and social issues: The Government will ensure that overall UAEP and individual project design and implementation, and subsequent electricity supply and use, meet EPA guidelines for electricity projects. Measures necessary to avoid or alleviate adverse environmental/social effects will be applied during construction and operations.

(k) Project financing plan: The level of financial contributions by the Government (from the Treasury and from loans or funding negotiated with multilateral and bilateral agencies), GPL, and beneficiaries (customers) has been defined. Appropriate mechanisms to mobilize these contributions will be developed and applied.

(l) "Lessons learned": The experience gained from (i) comparable projects in Guyana and (ii) electrification projects in comparable countries, in regard to technical/technological, economic/financial, socio-environmental, and institutional/administrative issues, will be incorporated into the design of UAEP and its components. This experience highlights the need for:

- Government leadership and long-term commitment to the electrification process, embedded in a comprehensive strategy and supporting policies which are based on (i) least-cost solutions incorporating appropriate system designs, technical standards, and operation and maintenance practices; (ii) project selection and priority setting consistent with economic criteria (i.e., existence of adequate demand and /or demand potential; consumers' ability and willingness to pay; long-term socio-economic development impact regionally and country-wide); and (iii) mobilization of synergies with other infrastructure services so as to optimize the impact of electrification.
- Electricity pricing based on economic (long-run marginal) cost, in order to ensure allocative efficiency and long-term viability of the sector. Subsidies should be limited to a portion of investment cost, with tariffs fully covering

operating and maintenance cost, with the possible exception of lifeline rates for low volume/low income consumers.

- An appropriate legal/regulatory framework and competent institutions, to ensure that government policies are carried out and development targets are met.
- Meaningful consultation with stakeholders, to encourage their participation in decision-making at an early stage and their active support in project implementation and subsequent operation.
- A pivotal role of private sector entities to provide managerial competence in executing investments and operating expanded systems, as well as providing supplementary financing (following an assessment of the impact of electrification schemes on the finances of these entities).
- Mobilization of international donor support for project preparation, implementation, and funding.
- Resolution of financial intermediation issues, to the extent that funding for electrification projects is channeled through financial intermediaries (i.e., lending terms and conditions; provisioning policies).

This document summarizes Government's policy for electrification of unserved areas. The Government is making this document public in the spirit of transparency, accountability and stakeholders' participation.

Samuel A. Hinds

Prime Minister and Minister responsible for the Electricity Sector