MINISTRY OF ENERGY

Street Lighting in Ghana - Policy Framework

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1 INTRODUCTION

Governments have over the years recognized the need for street lights for cities and towns and have instituted various programmes for the deployment of street lights in the country. Private-public partnerships, community-based and other private initiatives have been deployed to provide street lighting throughout the country. The Government of Ghana is embarking on a programme of systematic deployment of street lights, with the objective of ensuring adequate security and road safety at night particularly in the Regional, Metropolitan, Municipal and District capitals.

Street lighting is a social amenity and is a key indicator of the relative socio-economic development status of a country. It contributes to improved road safety, for both pedestrians and drivers, reduction in criminality in the cities and towns and also to improving the general business and living climate of urban and peri-urban areas.

Unfortunately, the lack of adequate developmental, regulatory and operational framework on street lights over the years has rendered their continuous expansion untenable. This policy document has identified the roles to be played by statutory, regulatory, utility, private and public institutions in the development, ownership, maintenance, sustainability and energy provision for the long term sustenance of street lighting in Ghana.

1.1 DEFINITION

Street lighting is defined as a public lighting system designed to give luminance to streets. By definition therefore, the positioning of the luminaire should be such that the area of peak intensity of the luminous flux (lamp output) distribution is directed towards the street surface only. A Street is one or more carriageways together with adjacent footways (if kerbed) or shoulders (if not kerbed). Residential roads, since they include footways, are normally referred to as streets.

1.2 HISTORICAL BACKGROUND

The provision of street lighting facilities in Ghana had been the responsibility of the Metropolitan, Municipal and District Assemblies (MMDAs) and Communities until the late 1980’s. The weak financial base as well as the inadequate and, in a lot of cases, unavailable technical capacity of the local authorities led to the deterioration of street lighting facilities over the years.

In April 1988, the Government in an attempt to remedy the deteriorating situation, appointed the Electricity Company of Ghana (ECG) to enter into a maintenance Contract Agreement on its behalf with a local street lights Contractor, beginning with street lights on ceremonial streets in the Greater Accra Region.

To provide funding for the operation and maintenance of the street lighting, the Government introduced a 1% street lighting levy on all domestic electricity sales. In January 1991 the street lighting levy was revised to ¢0.20 per kWh of electricity sold. The levy was further adjusted to ¢0.50 per kWh of electricity sold in June 1994. The purpose of the levy was to cover the cost maintenance and energy consumption of streetlights. The proceeds from the street lighting levy were to be apportioned to energy consumption and maintenance in the ratio of 4:1. From 1994 to date,
however, there has been no review of the street lighting levy despite the expansion of the installation of streetlights in almost every corner of the country, and a steady and systematic increase in electricity rates over the years.

1.3 CHALLENGES
The lack of a comprehensive policy framework on street lighting has prevented a concerted sustainable national development programme for street lighting. Given the status-quo, the continued expansion of street lighting programmes will prove untenable in the long term if the required regulatory, implementation, maintenance and management frameworks are not put in place. The following have been identified as the key issues that must be resolved to enable the provision of sustainable street lighting.

1. Ownership and responsibility for the provision and maintenance of street lights.
2. Lack of clear operation and maintenance regime for street lights in Ghana.
3. Lack of technical capacity at the local level to ensure reliable operation and adequate maintenance of street lights.
4. Inadequacy of funds for the payment for energy consumed by street lights and for the maintenance of street lights. The existing street lighting levy (0.00005GHp/kWh) is not adequate to fund operation and maintenance of street lights.
5. Lack of efficient mechanism for the management of the street lighting fund (levy)
6. Lack of a comprehensive regulatory manual, technical standards and specifications for street lighting
7. Lack of efficient mechanism to prevent vandalism, damage and theft to street lights or to replace damaged street lights.

2 GUIDING PRINCIPLES
The key principles that provide the basis for policy direction for sustainable development, ownership, operation and maintenance of street lighting system in Ghana include the following:

1. the principle of subsidiarity in order to ensure participatory decision making at the lowest appropriate level of society;
2. the principle of meeting the social needs for street lighting as priority, whilst recognizing the economic value of street lighting and the services it provides;
3. the principle of coordinating street lighting planning with land use planning;
4. the principle of enhancing capacity of local government authorities to plan, initiate, coordinate, manage and execute policies in respect of all matters affecting street lighting in their areas;
5. the principle of fair access to street lighting in every community.
3 POLICY GOAL & OBJECTIVES

3.1 GOAL
“To achieve universal access to street lighting infrastructure that is developed, owned, operated and maintained on a sustainable basis and thus, attain public safety, security, beautification and to enhance socio-economic development of the citizenry”

3.2 OBJECTIVES
The provision of street lighting and other items of illuminated street furniture support the priorities of the Government which include:

1. To provide security, road safety and promote socio-economic development.
2. To harmonize standards and best practices in street lighting development.
3. To establish appropriate development, ownership, operation and maintenance (O&M) regime
4. To institute a realistic street lighting levy to pay for electricity consumed in street lights and cater for their repair and maintenance.
5. To develop street lighting in accordance with approved standards and guidelines.

4 POLICY DIRECTION
In order to achieve the policy objectives, the following policy actions shall be pursued:

4.1 OWNERSHIP AND RESPONSIBILITY FOR PROVISION OF STREET LIGHTS
In accordance with the provisions of the Local Government (Departments of District Assemblies) (Commencement) Instrument, 2009 (L.I. 1961), MMDAs are responsible for the development, installation, ownership and maintenance of street lights throughout the country. Consequently all Street lighting constructed by the Public agencies, i.e. Central government, the MMDAs, Road Authorities, and the Community should be transferred to and owned by the Local Government Authorities (MMDAs). Construction of community street lights shall be sanctioned by the MMDA.

It is also recognized that some of the MMDAs lack the financial and technical resources to provide and maintain the service. The ability to attract and solicit for external financial resources such as loans and grants is non-existent in MMDAs. The Local Government Act, however empowers MMDAs to impose levies on property and economic activities in their areas or jurisdiction, part of which should be channeled to provide street lights or used as collateral for loans for the development of street lighting projects.

It is recommended that for a period of 5 years beginning 2012, the Ministry of Energy in collaboration with the Ministries of Finance and Economic Planning (MoFEP) and Ministry of Local Government and Rural Development (MLGRD) shall seek central funding for the development of street lighting. Once installed, the ownership must be assigned to the MMDAs, which shall be responsible for the repayment of their portions of the loans and
maintenance of the street lights. Capacity shall be built in the MMDAs to take full responsibility for street lighting thereafter.

4.2 OPERATION AND MAINTENANCE OF STREET LIGHTS
Existing and new street lighting units shall be maintained by the MMDAs to a standard that ensures, as far as possible, their safe, economic, effective and reliable operation. The basic requirements are:

1. The maintenance of an up-to-date electronic database of all units to ensure the satisfactory management of a maintenance process that meets legal obligations and provides information for the calculation and payment for electricity consumed.
2. Maintenance and repair procedures that ensure expeditious responses to identified defects.
3. The technical capacities of MMDAs shall be developed to ensure sustainable operation and maintenance of street lighting.

4.3 MECHANISM FOR STREET LIGHTING LEVY
All electricity consumers shall pay a levy, which shall be adequate, to be used by the respective MMDAs to pay the full cost of energy consumption and maintenance costs of street lighting. The level of the levy shall be determined by Parliament at the request of the Ministry of Energy (MoEn) and shall include a mechanism that will automatically adjust the level of the levy in line with changes in electricity tariffs.

4.4 ENERGY CONSUMPTION CHARGES
All street lighting must be metered as far as practicable to serve as:

1. A guide to determine the component of national energy consumption attributable to street lighting and traffic light systems. An input into the determination of an appropriate street lighting levy to cover the cost of energy consumed by street lighting and traffic lights.
2. To determine amounts payable to electricity distribution utilities for the electricity consumed in street lighting and traffic light systems.

4.5 PAYMENT FOR MAINTENANCE & ENERGY CONSUMPTIONS OF STREET LIGHTS
Payment for the maintenance and energy consumed in street lights shall be effected as follows:

1. There shall be one tariff for all street lighting in the country.
2. The tariff shall be set by the PURC.
3. The electricity distribution utilities shall apply the tariff to all street lighting and prepare bills every month.
4. The cumulative bill shall be submitted to the relevant Local Government Authorities (MMDAs), who shall verify and certify the energy charges payable to the relevant electricity distribution utilities for electricity consumed in street lights.
5. The utilities shall keep the certified energy consumption component of street lighting levy to pay for energy consumed.
6. The utility shall pay that portion of the street lighting levy for maintenance to the appropriate MMDA.

4.6 COMPREHENSIVE REGULATORY MANUAL, TECHNICAL STANDARDS AND SPECIFICATIONS FOR STREET LIGHTING

The Ghana Standards Authority (GSA) shall develop standards for the design and installation of street lights. A comprehensive Regulatory Manual, Technical Standards and Specifications for the design and installation of street lights shall be developed by the Energy Commission in collaboration with the GSA and the utilities, which shall be used by all persons who install street lights in Ghana.

4.7 ENERGY CONSERVATION/REMOTE MONITORING

The most efficient street lighting technology (including low energy consuming and remote monitoring technologies) shall be used as far as practicable.

4.8 RENEWABLE ENERGY EQUIPMENT

As far as practicable renewable energy lighting technology shall be given high priority.

4.9 LOCAL CONTENT

As an incentive for local industries, preference shall be given to products made in Ghana which meet the relevant specifications and standards. Such preferences shall be achieved by applying a preferential weighting, as per the recommendations of Public Procurement Authority (PPA). The effectiveness of this provision and the magnitude of the weighting shall be reviewed periodically.

4.10 MECHANISM TO PREVENT DAMAGE AND THEFT AND TO REPLACE DAMAGED STREET LIGHTS

The following mechanism shall be used to prevent damage and theft to street lights and to replace them in case of damage:

1. The Police, Local Authorities and communities shall jointly and severally be responsible for the prevention of damage, theft and vandalism to street lights.

2. MMDAs shall replace damaged street lights immediately and surcharge owners of vehicles that destroy street lights through their respective Insurers.

3. The National Insurance Commission shall impose a Public Property Damage Insurance Premium that should be charged on ALL vehicle insurance policies to be used to replace street lights in cases where vehicles that cause damage to street lights are not found.

4.11 CAPACITY BUILDING

The Ministry of Energy through its relevant agencies in collaboration with the Ministry of Local Government and Rural Development (MLGRD) shall facilitate the capacity building of the Works Department of the MMDAs on street lighting matters.
5 INSTITUTIONAL FRAMEWORK

5.1 STATUTORY AND REGULATORY STAKEHOLDERS

The Ministry of Energy, Ministry of Local Government & Rural Development, Electricity Distribution Utilities, Regulatory bodies, the Public Utilities Regulatory Commission (PURC) and the Energy Commission (EC), Ghana Standards Authority (GSA) and Local Government Authorities (MMDAs), shall be responsible for the implementation of Government policy on Street lighting as defined in this document. Other institutions include the Police, National Insurance Commission.

a) The main functions of the Ministry of Energy (MoEn) working in close collaboration with the Ministry of Local Government & Rural Development (MLGRD) shall include:
   i. Monitor the development of a comprehensive programme or a Master Plan for deployment of nation-wide street lighting.
   ii. Drive investments towards achievement of national street lighting goals
   iii. Promote new technologies such as Smart-grid and Automation in new and existing street lights leading to optimized operation, energy efficiency and reduced CO$_2$ and other greenhouse gas emissions.
   iv. Co-ordinate national and community street lighting initiatives.

b) The main functions of the Energy Commission and Ghana Standards Authority (GSA) shall be as follows:
   i. The EC and the GSA in consultation with the electricity utilities shall develop technical standards and operational guidelines for the design, installation and operation of street lighting systems in the country.
   ii. The EC shall coordinate the establishment and effective operation of a National Street Lighting Committee and District street lighting Co-ordination Committees as described in Annex 1 of this document.

c) The main functions of the Electricity Distribution Utilities shall include:
   i. Prepare and maintain accurate records and statistics of Street lighting installations and through metering or otherwise determine energy consumption in street lights in each district.
   ii. Assist and build the technical capacity of the Works Department of the MMDAs in the procurement of the services of consultants and contractors for the design and implementation of approved street lighting programmes to ensure high quality of street lighting works.
   iii. Collaborate with the GSA to prepare in consultation with other relevant authorities, standards for street lighting.
   iv. Assist MMDAs to prepare and implement standard work procedures for street lighting construction and maintenance.
d) The main functions of the Local Government Authorities (MMDAs) shall include:

i. Take over ownership and responsibility for the design, installation and maintenance of street lighting infrastructure in areas of jurisdiction in conformity with the standards, development, operation and maintenance manuals approved by the GSA.

ii. With assistance of Electricity Distribution Utilities, develop the needed human capacity for efficient development, operation and maintenance of street lighting in accordance with the approved standards.

iii. Ensure that plans for street lighting development, operation and maintenance are mainstreamed into its planning process especially the district Medium Term Development Plan.

iv. Verify and certify bills submitted by utilities for electricity consumed in street lights and obtain from the utilities the portion of the Street Lighting Levy allocated for street lighting repair and maintenance.

v. Acquire and maintain the technical expertise through suitable training courses both in Ghana and elsewhere to ensure that its technical staff is competent to design and assess Street lighting installations to ensure compliance with material and works standards.

vi. Submit to the MoEn and Ministry of Local Government and Rural Development, quarterly progress reports on street lighting construction and maintenance programmes.

## 5.2 SUMMARY OF STAKEHOLDER RESPONSIBILITIES

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<thead>
<tr>
<th>INSTITUTION</th>
<th>MANDATE</th>
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<tr>
<td><strong>5.2.1 Statutory Stake holders</strong></td>
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<tr>
<td>Ministry of Finance &amp; Economic Planning</td>
<td>✓ Provide financial resources for the Government-initiated street lighting projects.</td>
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<tr>
<td>Ministry of Roads &amp; Highway</td>
<td>✓ Assist the MoEn &amp; MLGRD to develop a systematic national programme for street lighting.</td>
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<tr>
<td><strong>5.2.2 Regulatory stake holders</strong></td>
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<tr>
<td>Public Utilities Regulatory Commission (PURC)</td>
<td>✓ Set tariffs for kWh energy consumption by street lights</td>
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<tr>
<td>Environmental Protection Agency (EPA)</td>
<td>✓ Enforce environmental regulations and policies required in street lighting development.</td>
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<td><strong>5.2.3 Other Institutions</strong></td>
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<tr>
<td>Security Agencies</td>
<td>✓ Enforce measures against vandalism or theft on street lighting infrastructure.</td>
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<tr>
<td>National Insurance Commission (NIC)</td>
<td>✓ Institute a scheme for national asset (street lights) damage compensation</td>
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<tr>
<td>The General Public &amp; Landlord Associations</td>
<td>✓ Report to MMDAs, utilities and the police vandalism and faults on street lights.</td>
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5.3 REVISION OF THE POLICY DOCUMENT

The provisions of this policy document and the legislations derived therefrom should be reviewed and adjusted periodically, to reflect emerging realities as when necessary.
5.4. STREET LIGHTING CO-ORDINATION

Co-ordination of Street Lighting programmes shall be effected through the following committees:

1. National Street Lighting Committee, and
2. District Lighting Co-Ordination Committees

National Street Lighting Co-Ordination Committees

A National Street Lighting Committee reporting to the Ministry of Energy (MoEn) and under the Chairmanship of the Director of Power of the Ministry of Energy shall be established. Membership of the Committee shall consist of one senior official from each of the following:

1. Ministry of Energy,
2. Ministry of Roads and Highways,
3. Ministry of Local Government & Rural development,
4. Environmental Protection Agency,
5. Motor Traffic & Transport Unit (MTTU) of the Ghana Police,
6. Electricity Company of Ghana,
7. Northern Electricity Distribution Company,
8. Energy Commission
9. Driver and Vehicle Licensing Authority (DVLA)
10. National Insurance Commission

The MoEn shall provide accommodation and secretarial facilities for meetings of the committee.

The functions of the committee shall be as follows:

1. Review and advise Government on Street lighting Policy and Practice in Ghana.
2. Monitor the progress of Annual and Long Term Street Lighting Development Programmes.
3. Monitor the effectiveness of street lighting maintenance policies and practices.
4. Advise on the financing of investment for Street Lighting Development Programmes.

The committee shall meet at intervals not exceeding six months and issue reports at six monthly intervals.

District Street Lighting Co-ordination Committees

A District Street Lighting Co-ordination Committee under the Chairmanship of, the MMDAs shall be established, in each district. The Committee shall consist of one official from each of the following institutions in the District:

1. District Planning and Coordinating Unit – Technical, Legal & Financial Representatives
2. Dept. of Urban Roads,
3. Town & Country Planning
4. Environmental Protection Agency,
5. Relevant Telecommunication Utilities
6. Police Motor Traffic & Transport Unit
Electricity Distribution Utility that serves the district. The MMDAs shall provide accommodation and secretarial facilities for meetings of the Committee. The committee shall meet at agreed regular intervals. The functions of the Committee shall be as follows:

1. Co-ordination and dovetailing as far as possible Annual and Long Term street lighting programmes with road works and other services.
2. Exchange with the relevant Service Providers details of street lighting work programmes with a view to coordinating site operations by harmonising work practices, e.g. ducting and trenching requirements, service corridor allocation re-instatement etc.
3. Determine responsible institutions/agencies for street lighting as part of major highway development programmes.
4. Reporting to the National Street lighting committee at quarterly intervals.