

28th September, 2012

LEGAL NOTICE NO. 102

THE ENERGY ACT, 2006  
(No. 12 of 2006)

IN EXERCISE of the powers conferred by Section 110 of the Energy Act, 2006, the Minister for Energy makes the following Regulations:—

THE ENERGY (ENERGY MANAGEMENT) REGULATIONS, 2012

Citation.

1. These Regulations may be cited as the Energy (Energy Management) Regulations, 2012.

Application.

2. These Regulations shall apply to the owner or occupier of industrial, commercial and institutional facilities using any form of energy.

Definitions.

3. In these Regulations, unless the context otherwise requires—

“Act” means the Energy Act 2006;

"approved" means approved by the Commission;

“carbon finance” means a mechanism that facilitates the financial reward through carbon credits for the reduction of greenhouse gas emissions by emitters in developing countries;

“clean development mechanism” means a mechanism that allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits each equivalent to one tonne of CO<sub>2</sub>, which can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol;

“designated facility” a facility designated by the Commission under section 105 of the Act;

“energy audit” means an inspection, survey and analysis of energy flows for energy conservation in a building, process, or system to reduce the amount of energy input into the system without negatively affecting the output;

“energy auditor” means a person who carries out inspection, survey and analysis of energy flows for energy conservation in a building, process, or system to reduce the amount of energy input into the system without negatively affecting the output, and includes a firm;

“energy consumption rating” means the classification by the commission of premises based on the amount of energy consumed;

“energy conservation” means efforts leading to a decrease in energy consumption;

“energy investment plan” means the allocation of resources for the purpose of advancement, capacity growth, and improvement of energy efficiency and conservation measures;

“energy savings” means the reduction of energy units consumed per unit of production or per square foot.

"facility" includes factories, commercial buildings, and institutional buildings, local authorities;

"owner or occupier" includes the charterer or a lessee of a facility;

"licensed" means licensed by the Commission.

#### Energy Consumption Rating.

4. (1) It shall be the responsibility of the Commission to carry out energy consumption rating of facilities for purposes of these regulations.

(2) Facilities shall be classified as low, medium or high consumers, and the classification shall be recorded in such manner and form as the Commission may consider appropriate.

#### Energy management policy.

5. (1) The owner or occupier shall develop an energy management policy for the facility which shall have the minimum requirements as provided in the First Schedule.

(2) The owner or occupier shall within one year of classification file the energy management policy for every designated facility with the Commission for approval before implementation.

(3) The owner or occupier of a facility shall designate an energy officer for every designated facility, who shall be responsible for the development and implementation of energy efficiency and conservation.

(4) The owner or occupier of a facility shall maintain records of information for every designated facility for a minimum period of five years from the date of occupation of the facility, which shall include –

(a) monthly and annual electricity, fuel and water consumption;

(b) monthly production data or occupancy levels; and up to date building plans, infrastructure plans and floor area drawings.

#### Energy audits.

6. (1) The owner or occupier shall cause an energy audit of the facility to be undertaken by a licensed energy auditor at least once every three years.

(2) The report of the audit undertaken under paragraph (1) shall be in the form set out in the Second Schedule.

(3) The owner or occupier shall submit the report of the audit to the Commission in a manner approved by the Commission, within six months from the end of the financial year in which the audit is undertaken.

(4) The Commission shall examine the report submitted hereunder and if dissatisfied therewith, may require the concerned owner or occupier of a facility, at his own cost, to engage an independent energy auditor from a list of names provided by the Commission to undertake an energy audit.

(5) An energy auditor shall upon completion of an audit execute a quality assurance declaration in the form set out in the Third Schedule.

(6) The Commission or its agent may subject the energy audit report to verification after giving not less than fourteen days notice to the facility owner or occupier.

#### Energy Investment Plan.

7. (1) An owner or occupier of designated facilities shall within six months from the end of the financial year in which an energy audit is undertaken, prepare and submit to the Commission an energy investment plan for the next three years, setting out proposals for the conservation of energy during that period.

(2) An energy investment plan under paragraph (1) shall be reviewed after every three years.

#### Energy conservation measures.

8. (1) The owner or occupier shall take measures to realize at least fifty percent of the identified and recommended energy savings specified in the energy investment plan by the end of three years and thereafter at every audit reporting date.

(2) An owner or occupier to whom these Regulations apply may investigate the inclusion of the relevant components of an energy investment plan into a project to be registered under the clean development mechanisms or any other carbon finance mechanism which may be in place from time to time.

#### Implementation Reports.

9. (1) Every designated facility shall submit an annual implementation report as provided in the Fourth Schedule.

(2) A facility owner or occupier who fails to submit an implementation report within the stipulated time shall be liable to a penalty not exceeding thirty thousand shillings for each day or part thereof that the breach continues.

(3) The Commission or its agent may conduct an inspection to verify compliance with the implementation report.

(4) The Commission shall issue a compliance certificate on request by facilities complying with these regulations.

#### Audit by the Commission.

10. (1) Notwithstanding regulation 6, the Commission or its agent may, after giving not less than fourteen days notice to the facility owner or occupier, undertake an energy audit at its own cost.

(2) The owner or occupier shall allow the Commission or its agent access to the facility for purposes of such audit.

#### Disputes.

11. (1) Where a dispute arises between an owner or occupier and the energy auditor the dispute shall be referred to the Commission for determination.

(2) A person aggrieved by a decision of the Commission may appeal to the Energy Tribunal.

#### Licensing of energy auditor or energy audit firm.

12. (1) A person shall not carry out an energy audit under these regulations unless he is licensed as an energy auditor by the Commission.

(2) A person shall be qualified to be licensed by the Commission as an energy auditor if the person holds the qualifications set out in the Fifth Schedule.

(3) An organization shall be licensed as an energy audit firm if it is registered in Kenya and has in its employment at least one licensed energy auditor.

#### Application for licence.

13. (1) A person wishing to be licensed as an energy auditor or an energy audit firm shall make an application to the Commission in the form set out in the Sixth Schedule.

(2) The Commission may require an applicant to be examined in such a manner as it may determine for purposes of ascertaining his ability to undertake, engage in or perform energy audit work.

#### Determination of Application.

14. (1) The Commission shall examine all applications under regulation 13, and may—

(a) grant the licence applied for accordingly, either without conditions or subject to such conditions as it may deem fit, or

(b) refuse to grant the licence applied for, giving reasons for refusal.

(2) A license issued under these Regulations shall be valid for one year from the date of issue.

#### Renewal and replacement of licences.

15. (1) An application for renewal of a licence shall be made at least thirty days before the expiry date of the existing licence.

(2) If the Commission is satisfied that the applicant has continuously met the conditions of the current licence, the Commission shall renew the licence.

(3) If the application for the renewal of a licence has been made before the expiry of the licence but has not been dealt with by the Commission when the license expires, that license shall remain valid until the application for renewal is finalized, and any renewal in such case shall be deemed to have commenced from the day the licence would have expired before the renewal thereof.

(4) Where, upon application, it is shown to the satisfaction of the Commission that a licence has been lost, destroyed or defaced the Commission may issue a duplicate licence.

(5) The Commission shall maintain a register of all licensed energy auditors and the register shall be available for inspection by the public free of charge.

#### Revocation of licence.

16. (1) The Commission may suspend or revoke a licence where—

(a) it is satisfied that the licence holder is either wilfully or negligently breaching the terms and conditions of the licence; or

(b) the licence holder is adjudged bankrupt.

(2) A person aggrieved by a decision of the Commission may appeal to the Energy Tribunal.

#### Professional Indemnity.

17. Every licensed energy auditor or energy audit firm shall take out and maintain a professional indemnity insurance policy.

#### Offences.

18. (1) Any person who—

(a) carries out an energy audit without a valid licence issued by the Commission under these Regulations; or

(b) being the owner or occupier of a designated facility—

(i) fails to submit an audit report to the Commission as stipulated in these Regulations, or

(ii) denies the Commission or its agent access to the facility for purposes of conducting an energy audit,

commits an offence.

General penalty.

19. Any person who commits an offence under these regulations shall, unless otherwise specified herein, be liable on conviction to a fine not exceeding one million shillings, or to a maximum term of imprisonment of one year, or to both.

FIRST SCHEDULE (r.5(1))

GUIDELINES FOR PREPARATION OF AN ENERGY MANAGEMENT POLICY

1. An Energy Management Policy shall include—
  - (a) A commitment to improve energy efficiency and conservation;
  - (b) A commitment to comply with the Act and these Regulations;
  - (c) A commitment to provide resources necessary to achieve energy efficiency and conservation;
  - (d) A commitment to establish and implement a strategic plan for energy efficiency and conservation;
  - (e) A commitment to train staff to ensure competence in energy efficiency and conservation;
2. The owner or occupier of the designated facility shall ensure that the policy is endorsed by the top management.
3. The owner or occupier of the designated facility shall ensure that the policy is communicated to all staff.

SECOND SCHEDULE (r. 6(2))

GUIDELINES FOR ENERGY AUDIT REPORT

1. Cover Page
  - Report title;
  - Name of client (company for which the facility has been audited);
  - Location of facility;
  - Date of report;
  - Audit team and their Qualifications;
  - Signature of Auditor or Audit Firm;
  - Statement by the company accepting the report and verifying that the audit report has taken into account the company's financial criteria for funding of projects;
  - Signature of company's representative.
2. Executive Summary

All information in the Executive Summary should be drawn from the detailed information in the full report. The Executive Summary should contain a brief description of the audit, including:

  - Name of client, location of facility or building audited;
  - Objectives of audit;
  - Key systems and equipment analyzed;
  - Dates of audit;
  - Summary of recommended energy conservation measures, annual energy savings and cost savings using the table format below:

| No.   | Recommended Measure | Estimated Implementation Cost | Estimated annual energy savings (kWh/unit of production and/or kWh/square foot) | Estimated Annual Monetary Savings | Estimated annual CO2 reduction (kg/kWh) | Payback period | Return on Investment (ROI) |
|-------|---------------------|-------------------------------|---|-----------------------------------|---|----------------|----------------------------|
| 1     |                     |                               |   |                                   |   |                |                            |
| 2     |                     |                               |   |                                   |   |                |                            |
| Total |                     |                               |   |                                   |   |                |                            |

### 3. Introduction

- Objectives of audit;
- The financial criteria and technical/operational limitations;
- Brief description of facility audited;
- Previous year's energy consumption and costs, including tariff rates used for financial calculations;
- Breakdown of energy supply and end use (electricity and fuel);
- Scope of audit.

### 4. Methodology

- List of instruments used and measurement procedure;
- Pictures and maps showing the locations of the instruments and sensors in use during the audit;
- Measurement error analysis (mandatory).

### 5. Assumptions

Clearly state all the assumptions made in taking measurements, calculations, and financial and economic analysis.

### 6. Data Analysis and Findings

- Description of systems or equipment audited, their capacities and ratings, design and operating conditions;
- Inventory of key energy consuming equipment and systems;
- Review of energy ,production and service level data for the baseline period (at least one year);
- Establishment of Baseline energy consumption data such as the energy efficiency index (EEI – kWh/m<sup>2</sup>/year) of buildings, define<sup>d</sup> as the amount of energy consumed annually per Gross Floor Area (GFA) of the building;
- Heat and mass balance where applicable;
- Findings and observations;

### 7. Identified Energy Saving Measures

- Brief description of the present situation and shortcomings identified.
- Recommended energy saving measures with detailed and clear calculations of the predicted annual energy and cost savings, investment cost and payback period for each measure. All numbers should be supported by data and assumptions must be stated.

### 8. Energy Investment Plan

- Summary of recommendations to include: projected annual kWh savings, estimated cost savings, projected investment cost and investment indicators such as payback period, return on investment and internal rate of return (IRR).

- Show clearly the agreed energy investment plan the organisation intends to take in order to improve efficiency and conserve energy. The Plans should show time required for completion, and resources to be used i.e. labour, materials, finances and anything else which is relevant for the project.

9. Monitoring and verification

Indicate the monitoring and verification process to be applied.

10. Appendices

Information of significant importance, which cannot be presented as a part of the text report (because of number of pages, quality of presentation, etc.) should be presented in appendices.

The appendices should include:

- Schematics and layout drawings of facility or building audited;
- Details of instrumentation used-parameters monitored and duration of monitoring for each parameter;
- Data plots of performance of systems or equipment audited;
- Energy efficiency of major equipment compared against industrial benchmarks;
- Measurement and verification (M&V) plan for monitoring and verifying energy savings for each of the recommendations;
- CD-ROM containing the raw measurement data.

11. General Notes to the Report

- Documentation – All numbers related to the results should be supported by information showing how they were derived. This includes all energy savings, cost savings, investment and payback information.
- All calculations in the report should be checked for mathematical accuracy.
- SI units must be used in all parts of the report.
- Measurement and instrumentation accuracy.
- Grammar and style – The report should be written in proper prose. The language should be clear, concise and understandable.
- All graphs and plots should be properly labeled and show the dates when the readings were taken.
- The report should be printed on both sides to save paper.
- A soft copy of the report shall be sent to the Commission.
- Indicate sources of reference which can include but not limited to Energy Management Handbook, International Standards and best global practices.

THIRD SCHEDULE

(r. 6 (5))

QUALITY ASSURANCE DECLARATION FORM

I/ We have conducted an energy audit as set out in the Energy Management Regulations 2011, which comprise the company energy consumption and costs as at .....(Date).

*Owner's Responsibility for the Energy Investment plan*

The Owner/ Occupier are responsible for the preparation and fair presentation of this e Energy Investment plan and the requirements of the Energy Management Regulations 2011. This responsibility includes: designing, implementing and maintaining internal controls relevant to the preparation and fair presentation of the Energy Investment plan that is free from material misstatement, whether due to fraud or error, selecting and applying appropriate energy audit methodologies; and making audit estimates that are reasonable in the circumstances.

*Auditors Responsibility*

Our responsibility is to express an opinion on the energy supply and end use based on our audit. We conducted our audit in accordance with International Standards on Energy Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the energy audit and investment plan are free from material misstatement.

An energy audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the energy and financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we considered the internal controls relevant to the company's preparation and fair presentation of the Energy investment plan in order to design audit procedures that were appropriate in the circumstances, but not for the purpose of expressing an opinion on the company's internal controls.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

*Opinion*

In our opinion, the accompanying Energy Investment Plan give a true and fair view of the possible intervention to improve energy efficiency and conservation of the company as at ....., (Date).

*Report on Other Legal Requirements*

We wish to report to you, based on our audit that—

- (a) We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit;
- (b) In our opinion proper energy and financial records have been kept by the company, so far as appears from our examination of those records; and
- (c) The company's energy supply and end are/are not in agreement with the records.

Certified Energy Auditor (Kenya)  
Licence Number \_\_\_\_\_  
National ID/Passport Number \_\_\_\_\_  
Sign \_\_\_\_\_  
Date \_\_\_\_\_

FOURTH SCHEDULE (r.9(1))

**GUIDELINES FOR IMPLEMENTATION REPORT**

1. **Cover Page**
  - Report title;
  - Name of client (company for which facility has been audited);
  - Location of facility or building;
  - Date of report;
  - Audit firm;
  - Audit team and their project designations.

**2. Executive Summary**

All information in the Executive Summary should be drawn from the detailed information in the full report. The Executive Summary should contain a brief description of the following:

- Name of client, location of facility or building audited;
- Measures Implemented;
- Summary of energy saving measures, and the measured annual energy and cost savings in table format as shown below—

| No.   | Recommended Measure | Estimated annual energy savings | Estimated annual energy savings | Estimated annual cost savings | Estimated implementation on cost | Payback period | Return on Investment (ROI) | Carbon Dioxide Reduction on per Kwh |
|-------|---------------------|---------------------------------|---------------------------------|-------------------------------|----------------------------------|----------------|----------------------------|-------------------------------------|
| 1     |                     |                                 |                                 |                               |                                  |                |                            |                                     |
| 2     |                     |                                 |                                 |                               |                                  |                |                            |                                     |
| TOTAL |                     |                                 |                                 |                               |                                  |                |                            |                                     |

### 3. Measures implemented and cost of implementation

- Details of measures implemented;
- Description of systems or equipment modified, their capacities and ratings, design conditions, equipment schedules, including information such as the type of systems, type of controls, type and number of auxiliary equipment, etc.
- Milestone chart showing the timeline of implementation;
- Cost breakdown of each measure in table format, with reference to the payment documents.

### 4. Measurements and Calculations

- Details of the measurement and verification system adopted to measure and compare actual savings to savings projected in the detailed audit;
- Formulae and key data used for calculations;
- Detailed instrumentation plan;
- Parameters monitored and duration of monitoring of each parameter;
- Dates of data collection and logging;
- Performance of systems or equipment;
- Findings and observations.

### 5. Savings Achieved

- Summary of the measures implemented the predicted and actual annual kWh savings, and the predicted and actual annual cost savings.
- Statement by the company on whether or not the implementations meet the company's savings target stated in the Audit report.

### 6. Appendices

Information with significant importance, which cannot be presented as a part of the text report (because of number of pages, quality of presentation, etc.) shall be presented as appendices as follows—

- Data plots of performance of systems or equipment improved;
- Data plots of energy consumed vs. time before and after implementation on the same graph, showing the improvement;
- Energy efficiency of major equipment compared against benchmarks set during the detailed audit.

- Current energy bills.
7. General Notes to the Report.
  8. Content – The report should focus on the measures stated in the detailed energy audit report, and with reference to the figures made then.
  9. Documentation – All numbers related to the results should be supported by information showing how they were derived. This includes all energy savings; cost savings, investment cost and payback information.
  10. Mathematical accuracy – All calculations in the report should be checked for mathematical accuracy.
  11. Grammar and style – The report should be written in proper prose. The language should be clear, concise and understandable.
  12. All graphs and plots should be properly labeled and named, highlighting the important points to take note.
  13. A soft copy of the report shall be sent to the Commission.

FIFTH SCHEDULE

(r.12(2))

QUALIFICATIONS AND EXPERIENCE FOR LICENSING

A—Energy Auditor –Minimum Education qualifications and Professional experience.

To be licensed as an Energy auditor an applicant must have a minimum of any one of the following combinations of academic and professional qualifications.

|   | <i>Education (Academic)</i>  | <i>Professional (Job)</i>   |
|---|--|---|
| 1 | A degree in technology or engineering or equivalent in a relevant field.   | At least three years work experience in <b>Energy</b> operations or Maintenance or Planning |
| 2 | Post graduate Engineer (Masters of Engineering / Masters of Technology)  | At least two years work experience in <b>Energy</b> operations or Maintenance or Planning   |
| 3 | A graduate Engineer with post-graduate degree in Energy Management or equivalent                                 | At least two years work experience in <b>Energy</b> operations or Maintenance or Planning   |
| 4 | Higher National Diploma Engineer or equivalent   | At least six years work experience in <b>Energy</b> operations or Maintenance or Planning   |
| 5 | A post graduate degree in Physics or Electronics or Chemistry (with Physics and Mathematics at graduation level) | At least three years work experience in <b>Energy</b> operations or Maintenance or Planning |
| 6 | A First degree in Architecture or equivalent field   | At least three years work experience in design and use of <b>Energy efficient buildings</b> |
| 7 | A Masters degree in Architecture or equivalent in relevant field.  | At least two years work experience in design and use of <b>Energy efficient buildings</b>   |

2. An energy management certification examination from a body recognized by the Energy Regulatory Commission, or Post Graduate Diploma in Energy Management, or Masters of Science in Energy Management from recognised University.
3. A person applying for Category B energy audit license shall have conducted at least five energy audits.

B—Categories of Audit Licences

1. Category A Auditor

A holder of a category A audit licence shall be authorized to conduct all energy audits including investment grade audits.

An applicant for a Category A Audit License shall be required to have—

- (a) met all the qualifications in part A above; and
- (b) conducted at least five energy audits, one of which must have been an investment grade audit.

2. Category B Auditor

A holder of a category B Audit License shall be authorized to conduct all energy audits excluding investment grade audits.

An applicant for a Category B Audit License shall be required to have:

- (a) met all the qualifications in part A above; and
- (b) conducted at least five energy audits.

SIXTH SCHEDULE

(r.13 (1))

APPLICATION FORMS

A: APPLICATION FOR LICENCE AS AN ENERGY AUDITOR

- 1. Name: \_\_\_\_\_
- 2. Age: \_\_\_\_\_
- 3. Nationality: \_\_\_\_\_
- 4. IdentityCard/PassportNumber: \_\_\_\_\_
- 5. Designation: \_\_\_\_\_
- 6. Category of Audit: A or B ( \_\_\_\_\_ )
- 7. Academic Qualification: \_\_\_\_\_
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
- 8. Professional Qualification: \_\_\_\_\_
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
- 9. Other specific qualification on energy related subjects ( if any) \_\_\_\_\_
- 10. Membership of professional and/or Technical Associations
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_

11. Employment Record

| <i>Period from /To</i> | <i>Name of Company</i> | <i>Position Held</i> | <i>Responsibilities and Experience</i> |
|------------------------|------------------------|----------------------|--|
|                        |                        |                      |  |
|                        |                        |                      |  |
|                        |                        |                      |  |

12. Previous Energy Audits

| <i>Energy Audit Dates</i> | <i>Energy Audit Location</i> | <i>Client Name Address/Contact Info</i> | <i>Category of Audit</i> | <i>Scope of the Energy Audit</i> | <i>Status of the Energy Project after Audit</i> |
|---------------------------|------------------------------|---|--------------------------|----------------------------------|---|
|                           |                              |   |                          |                                  |   |
|                           |                              |   |                          |                                  |   |

13. Provide certified copies of National ID or passport, academic, professional and training certificates of Lead Auditor.

Note: For items 10 and 11, Applicants May provide detailed information on separate sheets if the space provided is not adequate.

**B: APPLICATION FOR LICENCE AS AN ENERGY AUDIT FIRM**

Purpose of Application \*: New Application. \_\_\_\_\_ Renewal \_\_\_\_\_

1. Company Name : \_\_\_\_\_

2. Category of the Energy Audit Firm ( i.e. A or B) \_\_\_\_\_

3. Date: \_\_\_\_\_

4. Contact details

a. Physical Address: \_\_\_\_\_

b. Telephone No.: \_\_\_\_\_

c. Cell Phone No. \_\_\_\_\_

d. Email Address: \_\_\_\_\_

e. Website (if any): \_\_\_\_\_

5. Details of the Licenced Energy Auditor ( i.e. Lead Auditor)

Name: \_\_\_\_\_

Nationality \_\_\_\_\_

ID/Passport Number \_\_\_\_\_

Licence Number \_\_\_\_\_

Position held \_\_\_\_\_

6. Provide copies of the following certificates

a. Certificate of registration from the registrar societies.

b. VAT certificate.

c. Tax Compliance certificate.

d. Certified copies of National ID or passport, academic, professional and training certificates of Lead Auditor.

Dated the 4<sup>th</sup> September, 2012.

**KIRAITU MURUNGI,**  
*Minister for Energy.*