**Disclaimer:** the usage of this document falls on the user and SEEC does not assume any responsibility**.**

**[Instructions:** This report provides a guidance for an energy audit report, also known as Detailed Facility Study (DFS), of a Building. The guidance suggests key sections and sub-sections to include to support the user in preparing a report, automatically filling the guidance with data collected as part of the building auditing process.

This guidance covers the minimum required sections to conduct a successful energy audit report based on global & local practices. The user should make whatever edits they deem appropriate and either delete or fill in any missing information based on what they wish to include in the report. The report covers the minimum requirements for level 1 audits type, for level 2 & level 3 audits additional requirements should be added.

The report should be developed in accordance with the Terms and Conditions laid out as part of the energy audit contract.

The report should then be finalized to provide a more professional looking product by eliminating the instruction boxes and by adding appropriate letterhead or logo. All additional relevant sections can be included as part of the Appendix]

Building picture

**[Commercial Building Name]**

[Building address]

[Type of Energy Audit]

Prepared by [Audit Company Name]

[Date]

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# ACRONYMS AND ABBREVIATIONS

[List all acronyms and abbreviations that will be used throughout the report]

# EXECUTIVE SUMMARY

## 2.1 NATURE AND SCOPE OF REPORT

[Provide general information about the audit, including type of audit, objectives, scope of work, methodology, date, etc.]

## 2.2 FACILITY DESCRIPTION

[Provide general information about the facility, e.g. original construction date, surface area, number of floors, and any notable conditions that were observed during the energy audit]

## 2.3 CLIMATE CONDITIONS

[Briefly describe the climate conditions of the facility]

## 2.4 ENERGY CONSUMPTION OVERVIEW

[Recap the major energy consuming systems of the facility]

## 2.5 ENERGY AUDIT FINDINGS

[Recap the key energy saving measures and savings potential that were identified]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ESM #** | **ESM** | **Cost** (SAR) | **Potential savings** (SAR/ year) | **Payback period** (years) | **% Savings from System Consumption** | **% Savings from Total Consumption** |
| ESM 1 |  |  |  |  |  |  |
| ESM 2 |  |  |  |  |  |  |
| ESM 3 |  |  |  |  |  |  |
| ESM 4 |  |  |  |  |  |  |
| ESM 5 |  |  |  |  |  |  |
| … |  |  |  |  |  |  |
| **Total** |  |  |  |  |  |

[Discuss overall project feasibility and potentially provide recommendations]

|  |  |  |
| --- | --- | --- |
| **Costs** | **Total ESMs cost** (SAR) |  |
| **Total M&V** (SAR) |  |
| **Total O&M** (SAR) |  |
| **Energy audit fee** (SAR) |  |
| **Total project cost** (SAR) |  |
| **Savings** (per year) | **Energy cost savings** (SAR) |  |
| **Payback** | **Maximum payback period** (years) |  |
| **Guarantee** | **Proposed performance guarantee of the project** (years) |  |

# 3. FACILITY DESCRIPTION

## 3.1 CONTACT INFORMATION

### 3.1.1 BUILDING INFORMATION

|  |  |
| --- | --- |
| **Building Name** |  |
| **Address** |  |
| **Owner** |  |
| **Key contact** |  |

### 3.1.2 AUDIT INFORMATION

|  |  |  |  |
| --- | --- | --- | --- |
| **Contact Name** | **Role** | **Email** | **Contact Number** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## 3.2 SITE DESCRIPTION

### 3.2.1 GENERAL BUILDING CHARACTERISTICS

[Building age, surface area by section, floorplan, number of floors, year of last renovation, structure, purpose use, capacity, number of occupants, number of operating hours, percentage owned vs. leased, etc.]

### 3.2.2 DESCRIPTION OF LIGHTING SYSTEM

[Number and types of lighting, power, operating hours etc.]

### 3.2.3 DESCRIPTION OF HVAC SYSTEM

[Number and types/ models of units, manufacturer, heat capacities/ efficiency, control, operating hours, etc. ]

### 3.2.4 BUILDING ENVELOPE

[Structure, finish, glazing, roof structure, areas of air leakage/ moisture intrusion/ heat transfer, presence of window treatments/ specialized glass/ curtains/ awnings, etc.]

### 3.2.5 POWER SUPPLY

[Number of SEC and/ or Marafiq meters, numbers of transformers, line to line voltage, frequency, etc.]

### 3.2.6 OTHER EQUIPMENT

[Other energy consuming equipment/ systems and associated characteristics e.g. escalators, elevators technology infrastructure, etc.]

### 3.2.7 NOTABLE CONDITIONS OBSERVED

[Highlight any notable conditions that were observed during the audit e.g. any malfunctioning equipment, leaks, etc.]

# ENERGY CONSUMPTION SUMMARY

## 4.1 HISTORICAL UTILITY DATA

Table x.y: Annual Energy Consumption and Cost Summary

|  |  |  |  |
| --- | --- | --- | --- |
| **Energy Source and Year** | **Annual Consumption** (KWh/ year) | **Annual Cost** (SAR/ year) | **EUI** (KWh/ sqm) |
|  |  |  |  |
|  |  |  |  |
| **Total** |  |  |  |

Figure y.y: Monthly Electricity Consumption (KWh)

[Insert bar chart with electricity consumption per month over a one-year period]

[Highlight any notable insight e.g. significant EUI, increase in consumption during summer period, peak in specific month, etc.]

## 4.2 ENERGY CONSUMPTION BREAKDOWN

[Annual energy consumption by user category e.g. HVAC, lighting, etc.]

## 4.3 BENCHMARKING

[Provide information on the building Energy Use Intensity (EUI) and Energy Cost Index (ECI) to benchmark the facility’s energy consumption]

# ENERGY EFFICIENCY MEASURES

## 5.1 SUMMARY OF ENERGY EFFICIENCY MEASURES

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ESM #** | **ESM** | **Modified System** [e.g. HVAC, lighting] | **Cost** (SAR) | **Savings** (KWh/ year) | **Savings** (SAR/ year) | **Payback Period** | **% Savings from System Consumption** | **% Savings from Total Consumption** |
| ESM 1 |  |  |  |  |  |  |  |  |
| ESM 2 |  |  |  |  |  |  |  |  |
| ESM 3 |  |  |  |  |  |  |  |  |
| ESM 4 |  |  |  |  |  |  |  |  |
| ESM 5 |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |
| **Total** |  |  |  |  |  |  |

## 5.2 DETAILED DESCRIPTION AND CALCULATIONS

### 5.2.1 ESM1: [ENERGY SAVING MEASURE 1]

[Current situation/ Rationale for suggesting the energy efficiency measure]

[Detailed description of the solution]

[Detailed energy savings and payback period calculations]

### 5.2.2 ESM2: [ENERGY SAVING MEASURE 2]

[Current situation/ Rationale for suggesting the energy efficiency measure]

[Detailed description of the solution]

[Detailed energy savings and payback period calculations]

### 5.2.3 ESM3: [ENERGY SAVING MEASURE 3]

[Current situation/ Rationale for suggesting the energy efficiency measure]

[Detailed description of the solution]

[Detailed energy savings and payback period calculations]

### 5.2.4 ESM4: [ENERGY SAVING MEASURE 4]

[Current situation/ Rationale for suggesting the energy efficiency measure]

[Detailed description of the solution]

[Detailed energy savings and payback period calculations]

### 5.2.5 ESM5: [ENERGY SAVING MEASURE 5]

[Current situation/ Rationale for suggesting the energy efficiency measure]

[Detailed description of the solution]

[Detailed energy savings and payback period calculations]

# TOTAL PROJECT COST

[Total project cost and payback period for the ESMs shall be summarized and included in this section, calculated by adding all relevant ESM fees, and additional measurement and verification service fees and O&M costs if applicable]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ESM #** | **ESM** | **Total project cost** (SAR) | **Energy cost savings** (SAR) | **Duration of installation** (weeks) | **M&V fees** (SAR) | **O&M costs** (SAR) | **Payback period** (years) |
| ESM 1 |  |  |  |  |  |  |  |
| ESM 2 |  |  |  |  |  |  |  |
| ESM 3 |  |  |  |  |  |  |  |
| ESM 4 |  |  |  |  |  |  |  |
| ESM 5 |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Costs** | **Total works price** (SAR) |  |
| **Total M&V** (SAR) |  |
| **Total O&M** (SAR) |  |
| **Energy audit fee** (SAR) |  |
| **Total project cost** (SAR) |  |
| **Savings (per year)** | **Energy cost savings** (SAR) |  |
| **Payback** | **Maximum payback period** (years) |  |

# M&V METHODOLOGY

[Propose plan to verify the energy savings opportunities during the testing and commissioning of the ESMs]

# APPENDIX

## 8.1 Equipment Inventory

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID#** | **Equipment type**  | **Location** | **Area/ System served** | **Rated efficiency (%)** | **Output capacity** | **Units** | **Quantity** | **Year installed** | **Current condition (excellent, good, average, poor)** |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |

## 8.2 Energy Audit Checklist

### 8.2.1 Lighting System

### 8.2.2 HVAC System

### 8.2.3 Power Supply

### 8.2.4 Other Equipment

## 8.3 [APPENDIX 3]

[Insert any relevant information, tables, graphs e.g. equipment inventory, data collection form, etc.]