Ministry of Energy and Public Utilities

Energy Management Tool

for Ministries and Departments

User Manual

Introduction

The Energy Management Tool for Ministries and Departments was developed in the context of the Budget Measure to reduce energy use by Government Bodies by 5%, as announced during the National Budget 2021-2022. It translates the will of the Government of Mauritius to set the example of adopting the best practices to achieve Energy Conservation and Energy Efficiency by enforcing measures to curtail energy waste in Government operations.

The tool offers a simple interface for inputting energy consumption data and offers a clear presentation of the interrelated metrics and trends.

Electricity is the source of energy under consideration. Therefore, the primary source of data used to populate the tool are the Central Electricity Board electricity bills.

This document will serve as a guide through the various sections of the tool, how to extract relevant information from electricity bills, how to input them and finally how to use the outcomes of the tool for energy reporting.

In order to effectively manage energy consumption of Government bodies, the latter should first know and assess their own rapport to energy at organisational level. This tool intends to provide assistance in this assessment.

The Energy Management Tool

The tool is built as a Microsoft Excel sheet to enable easy manipulation and minimum system requirements. There is no need to install any other third party software or to use other external services.

The Dashboard
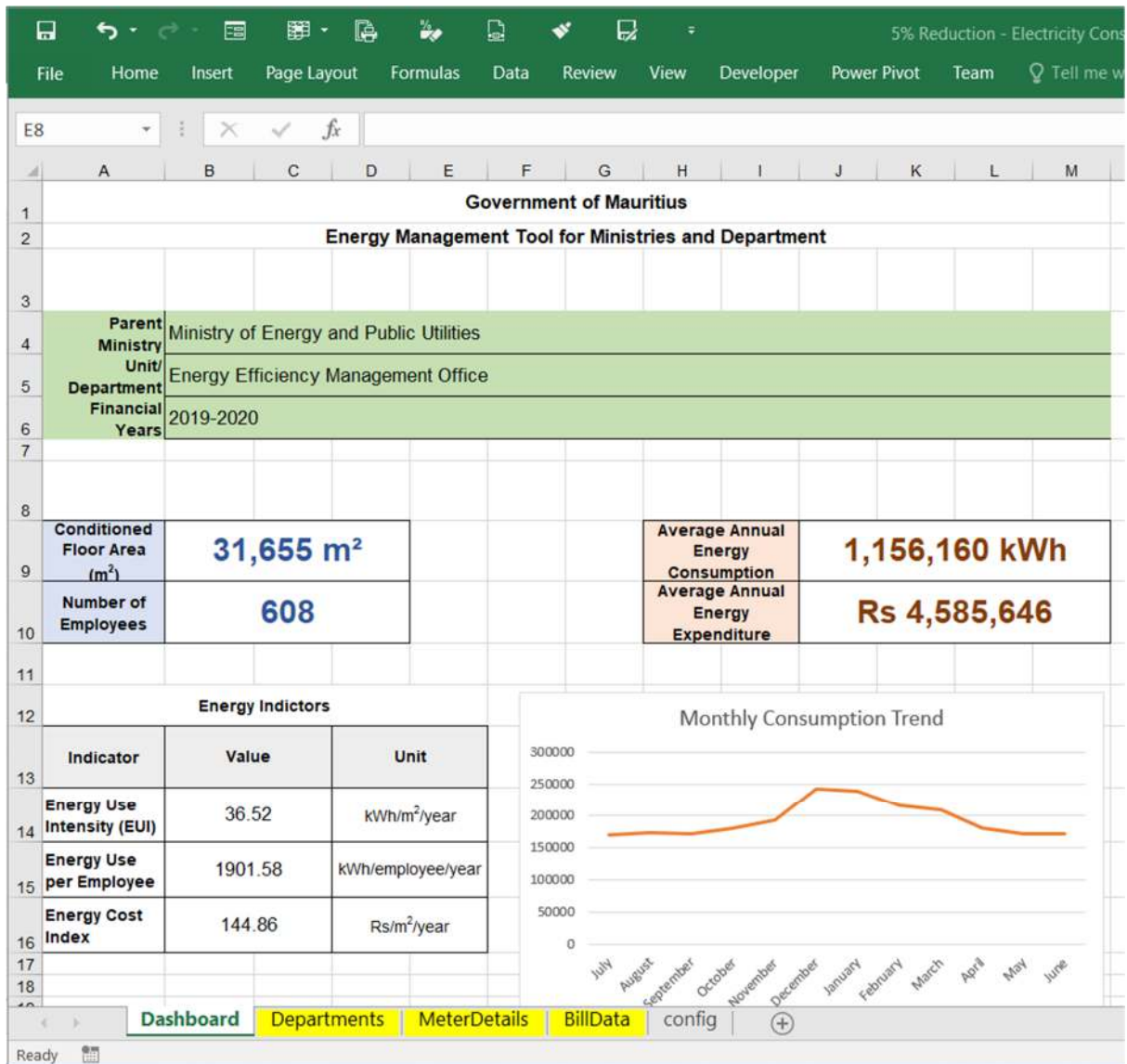
The first sheet in the workbook is the Dashboard. It summarises all the key variables derived from the data input. It calculates the following parameters and indicators:

- The total floor area of all departments
- The total number of employees under the Ministry
- The average annual energy consumption for all months reported
- The average annual energy expenditure based on billed amounts provided

- Indicators, such as the energy consumption per floor area (Energy Use Index), the energy use per employee and the cost of energy per floor area under the Ministry (Energy Cost Index)

Data Input – Departments

The first sheet for data input concerns information about the departments. The tool defines departments as functional administrative units within a Ministry, whether geographically distributed or centralized.

The sheet intends to allow energy managers to identify these functional units and provide basic information (address and contact details) as well as other parameters that will be accounted for during reporting. These are the number of employees within the department and the conditioned floor area.

At the very minimum, a Ministry itself should be defined as the "Head Office".

The conditioned floor area is indoor, built or otherwise part of the building or facility accounting for energy use. No exact measurements are required for this parameter, but it can readily be obtained from lease agreements as a gross figure or estimated from building site or location plans.

The number of employees may be secured from the Human Resource Section of the relevant ministry or from the Department itself.

It should be noted that for departments having multiple outstations, each distinct office should be input under the same department name, but with different details and parameters.

Data Input – CEB Meter Details

Prior to inputting data from individual electricity bills, the different accounts and meters registered under the Ministry and its departments need to be input. The Meter Details sheet therefore provides a summary of all meters of the Ministry, which will in turn serve as a control for the bill input phase.

It is important to note here that the name of the department for a particular meter will be the same as that input in the previous sheet. The other data, including the Account No., Partner No., Meter No., Tariff and Billing Address can all be found on a single electricity bill.
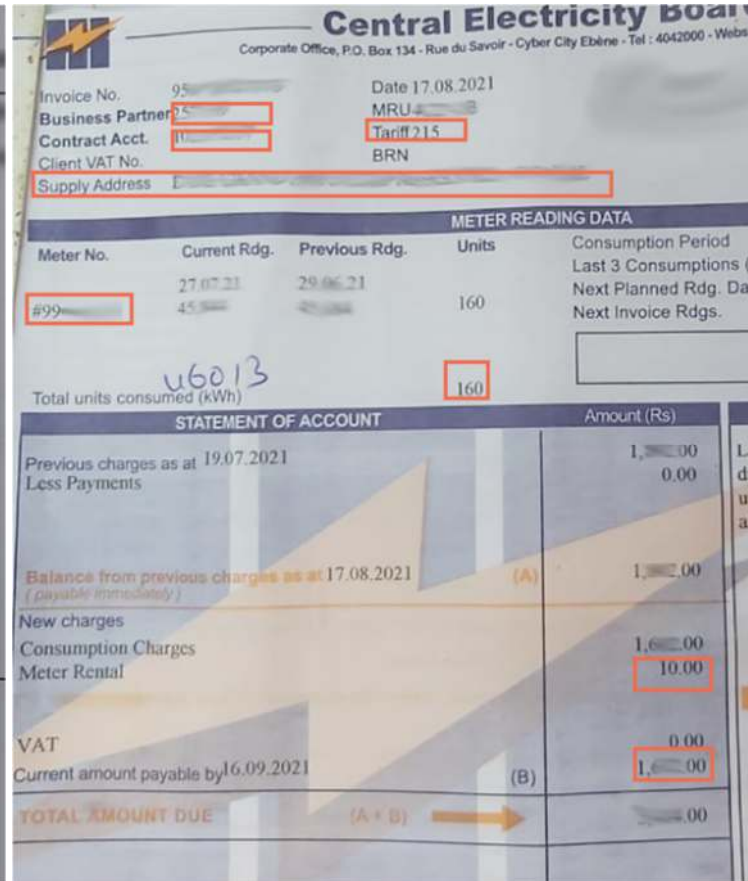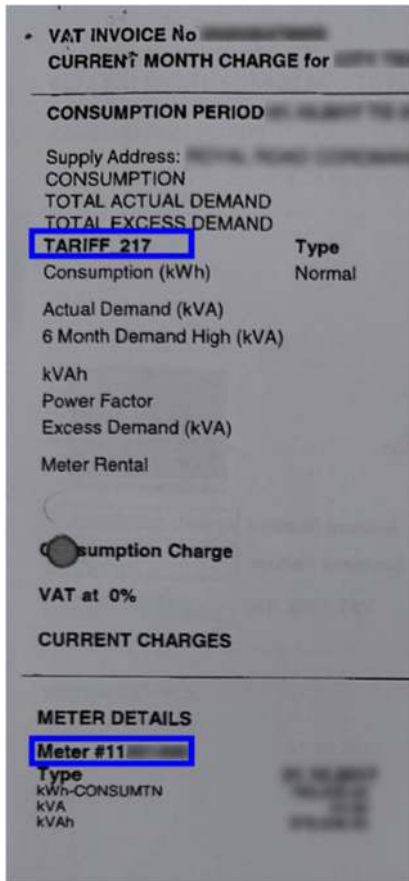
Data Input – Bill Data

This sheet is concerned with information available from individual electricity bills. The Meter No. should correspond to the one input in the previous sheet, as the matching and bill calculations will be linked.

Here, all the electricity bills for a minimum period of 2 years have to be gathered and input. The fields to be input are:

- The billing year, e.g. 2019
- The billing month corresponding to the consumption period as indicated on the bill
- The Meter No. as input in the Meter Details sheet. The values will automatically be limited to those entered in the latter sheet. If the meter is not listed, it should be verified that it was correctly input previously.
- The Tariff will automatically be appended from the Meter Details sheet
- The Meter Rental is available from the electricity bill
- The Consumption units, 6-month High Demand, Actual Demand, Excess Demand, kVAh and Power Factor are obtained from the CEB bill

The total billed amount will be automatically calculated. The responsible officer can thus verify that the correct data has been input as the amount will serve as a control compared to the electricity bill.

Minor discrepancies may occur due to mathematical operations and rounding-off errors. Should major deviations be observed, these should be reported to the Energy Efficiency Management Office (EEMO) by e-mail at eemo@govmu.org, along with the tool.

Note that some flat tariffs do not contain as many details, for instance CEB tariff 215. In these cases, only the consumption units and meter rental are required.

Reporting Energy Consumption

Once all the inputs have been done accordingly, one may revert to the Dashboard to get the outcomes of the consumption over the period considered.

The tool may be populated at one go, or segregated by department then compiled by a central officer/team, where data input may be tedious due to a large number of departments under a particular ministry.

The input may be reiterated over regular intervals, or as prescribed by the EEMO. A frequency of 6 months is advisable.

The previous data input may be retained and new data appended to the Billing Data sheet, to avoid duplication of input.

The overall sheet may then be sent to the EEMO for records and analysis by e-mail on eemo@govmu.org.