




# Sterling Chemical Malta Ltd

## ENVIRONMENTAL INSTRUCTION: ENERGY MANAGEMENT

### REVISION HISTORY

Revision Date	Revision Number	Sections affected	Change description
26.02.2014	00		First issue

Procedure Number: <b>MPA_4.4.6-B</b>	Edited by <b>RDOC</b>	Revision by: <b>RSGA</b>	Approved by: <b>Top Management</b>
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## 1. PURPOSE

The purpose of this procedure is to establish a standard method for monitoring and reporting on the energy performance of work buildings.

## 2. SCOPE

This procedure accounts for all forms of purchased energy, including electricity, oil, gas, liquefied propane gas (LPG), district heat, and other. It also accounts for all forms of on-site energy production, including photovoltaic (PV), solar thermal. This procedure applies to facilities with on-site storage of LPG, provided that the fuel use is metered as it is dispensed from storage. It also encompasses energy storage components such as batteries, flywheels, thermal storage media, and hydrogen storage. This procedure applies for management all energy type (steam, heat and electricity). It encompasses all types of existing work buildings in HAL FAR – Industriale Estate at HF51 BBG3000-MALTA

## 3. REFERENCE DOCUMENTS

The reference documents for the understanding of this procedure are the following:

- UNI EN ISO 14001 is a family of standards related to [environmental management](#) that exists to help organizations (a) minimize how their operations (processes etc.) negatively affect the environment (i.e. cause adverse changes to air, water, or land); (b) comply with applicable laws, regulations, and other environmentally oriented requirements, and (c) continually improve in the above.
- UNI ISO 14004 – additional guidelines

## 4. DEFINITIONS, ABBREVIATIONS, AND ACRONYMS

Purpose of a rapid and conscious understanding Of this procedure gives a few definitions that are the subject of discussion


**ELECTRICITY ENERGY:** When loosely used to describe energy absorbed or delivered by an electrical circuit (for example, one provided by an electric power utility) "electrical energy" refers to energy which has been converted *from* electrical potential energy

**HEAT ENERGY:** is a form of energy which transfers among particles in a substance (or system) by means of kinetic energy of those particle.

**TEP:** E' letteralmente Tonnellata Equivalente di Petrolio, ovvero un'unità di misura internazionale dell'energia;

**BAT:** Best Available Techniques BAT is defined in Section 5 of Environmental Protection Agency Acts, 1992 and 2003, and Section 5(2) of the Waste Management Acts 1996 to 2005, as the "most effective and advance stage in the development of an activity and its methods of operation, which indicate the practical suitability of particular techniques for providing, in principle, the basis for emission limit values designed to prevent or eliminate or, where that is not practicable, generally to reduce an emission and its impact on the environment as a whole",

**PCI:** is defined as the amount of heat evolved when a unit weight (or volume in the case of gaseous fuels) of the fuel is completely burnt and water vapor leaves with the combustion products without being condensed.

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## 5. RECIPIENTS

This procedure is intended for the following target present within the Organization:

- TOP Management;
- RSGA: environmental manager of the HSE system
- technical office.
- RDOC: Responsible of Documents and Communications

## 6. PROCEDURE

To minimize the consumption, Sterling Chemical Malta Ltd adopts policies to eliminate and reduce waste, workable procedures and awareness training for worker. Given the relative impact on the total energy balance, waste reduction policies and interventions that effect will be particularly aimed at raising awareness operators by providing them with education on proper operational management of energy resources made available by the company and that will be delivered at the time of their initial training performed within the first week of working within the organization (regardless of the contractual form of collaboration). This training will then be updated annually by a qualified technician or HSE Office or whenever significant changes occur during the how you use energy.

RSGA has the task of accounting for the energy consumption, with specific methods for each source of energy supplied .

The first systematic survey of the energy consumption of the company Sterling Chemical Malta Ltd will be made in the first phase so as to create a base . This is a preliminary study only preliminary analysis of the first bills that will arrive in the company. Later, this procedure will be modified based on energetic analysis performed in accordance with the manual power management. The technical office is responsible for keeping this information up to date and to revise the documentation mentioned every week reporting any changes that occurred . In order to have a response time constant reading must always be performed on the last working day of each month. Are summarized below in the tables related to the consumption of the various types of energy procured .

### Electricity Meter reading

### MRA\_4.4.6-F1

Trafo --				
Date	Meter reading Kwh	Lettura precedente Kwh	Consumption Kwh	Note


Table 1 Energy consumption recording

### Gas meter reading

### MRA\_4.4.6-F2

DATE	Meter reading	Consumption m <sup>3</sup>	note

Table 2 gas consumption recording

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The consumption of electricity and natural gas are accounted for on the basis of billing as a method of comparison with the actual data in reading the meters. For transport fuels, fuel consumption is registered with the inclusion of the data recorded on the monthly fuel cards, this record is edited by the accounting and data will be extrapolated from RDOC annually in the preparation of the Management Review.

The records will only copy in computer science and will be printed only in the Annual Review of the Management. At this meeting, will be endorsed by senior management and by RSGA by signature and affixing the stamp and the date of closure of register.

The data obtained through the monitoring of energy consumption are used by RSGA for the annual compilation of the Environmental Analysis of Periodic formulation or biennial depending on the information provided by the Management during the Review.

Per calculate the equivalence in TEP products you should refer to Table 3

Product	Equivalence in TEP
1 ton. petrolio	1,00
1 ton. gasolio	1,08
1 ton. benzina	1,20
1000 Nm <sup>3</sup> metano	0,82
1 kWh energia elettrica	0,00022

**Table 3** Equivalence in TEP of energy consumption.

## 7. ENERGY INDICATORS

The energy indicators are an important tool to analyze the energy consumption of its structure, comparing with other similar and / or with data from the literature and available through the Italian Federation for the 'Rational Use of Energy

The indicators that need to be managed are:

- Consumption of electricity / heat/steam energy per employee;
- Consumption of electricity / heat/steam energy to the product;
- Consumption of electricity / thermal energy per square meter of surface area;


These data will form part of the Report on the Management Review and Periodic Environmental Analysis.

## 8. TECHNICAL ENERGETIC EVALUATION

Before you purchase obligation on the part of the technical, refer to the office environment by defining a proposed change through the form MMA\_4.3.1-A providing in this case, at least an alternative consulted by RSGA or RDOC. If necessary, this proposal at the request of the parties involved will be discussed at the regular quarterly meeting.

## 9. RESPONSIBILITY

The responsibility for the data retrieval and update their technical office in the person of the head of the maintenance department. Top management can draw conclusions regarding the indications for

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interventions technical, organizational and / or management aimed at reducing fuel consumption. Reviews are subsequently used by Top management to establish precise objectives and programs. Maintaining and updating records related to the monitoring of energy consumption is prescribed by current integrated environmental authorization in place at Sterling Chemical Malta Ltd.