

# National Manual of Assets and Facilities Management

## Volume 17 Chapter 1

### Energy Management and Sustainability Introduction Guideline

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## Energy Management and Sustainability Introduction Guideline

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# Energy Management and Sustainability Introduction Guideline

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# Energy Management and Sustainability Introduction Guideline

## 1.0 PURPOSE

The National Manual of Assets and Facilities Management (NMA&FM) should support standardization of operating procedures across all government entities which will enable enhanced operation of facilities. This volume focuses on the fields of Energy Management and Sustainability.

The purpose of Volume 17 (Energy Management and Sustainability) is to guide entities toward integrating energy efficiency and sustainability practices within existing operations.

Entities understand that infrastructure assets represent significant investment, not only during construction, but also throughout the operational lifecycle. By applying guidance contained herein, each Entity can realize both significant operational cost savings as well as extended asset life.

## 2.0 SCOPE

Each Entity shall use the content of Volume 17 as the basis for developing and enhancing its own operating procedures.

Regulatory and standards compliance is among the top priorities for all facilities for several reasons, including:

- Delivering value against the Entity's Vision
- Limiting risk to the Entity's operations
- Performing its duties in line with the Entity's Values

This volume defines the minimum requirements for energy management and sustainability. An Entity may therefore choose to build upon the content of the volume to reflect unique, specialized systems or operations, while maintaining the intent of the volume.

## 3.0 DEFINITIONS

The Entity should consult the "Definitions and Acronyms Guideline" (Document No. ENT-E00-GL-000001) for a list of standard definitions and abbreviations used by Expro. The list provided in the below table is specifically applicable to this chapter (Introduction) while subsequent chapters contained within the volume also have a set of definitions applicable to the respective chapter.

Term	Definition
Entity	A business organization, public institution, or area of activity
Facility	Enclosed or unenclosed building or industrial process located on single campus
Operation	An active process, task, or discharge of a function
<b>Abbreviations</b>	
EMIS	Energy Management and Information Systems
EnMS	Energy Management System
ESCO	Energy Service Companies
FM	Facilities Management
M&V	Measurement & Verification
MBCx	Monitoring Based-Commissioning
NMA&FM	National Manual of Assets and Facilities Management
O&M	Operation and Maintenance
SDG	Sustainable Development Goals
UN	United Nations



### 4.0 REFERENCES

This volume is based upon latest standards, legislation, and best-practice at the time of production. As far as is reasonably practicable, standards and legislation referenced herein should be followed as a minimum. However, references may become superseded due to: latest Royal Decree; regulatory changes; revised standards; innovative practices; or introduction of new technologies. Therefore, Expro should be consulted to ensure that the most up-to-date and accurate information is used.

### 5.0 RESPONSIBILITIES

The Entity shall follow guidance as documented throughout the entire NMA&FM. Documented and controlled research shall be undertaken by the Entity to ensure it maintains the highest levels of compliance and safety in delivering its operations.

The volume will be updated periodically to reflect changes that are likely to occur (e.g. through: new legislation; revised standards; innovative practices; or user feedback) but the Entity shall also be responsible for consulting all references directly to ensure that guidance remains relevant – the Entity is responsible for ensuring that it follows latest standards and best practice.

### 6.0 PROCESS

The volume features 2 chapters.

#### 6.1 Chapter Summary

Chapters are summarized as follows:

1. Chapter 1: Introduction
2. Chapter 2.1: Energy Management
3. Chapter 2.2: Sustainability

#### 6.2 Chapter 2.1: Energy Management

This chapter highlights the importance of implementing an Energy Management System (EnMS) within the Entity and its role in not only sustaining profitable operations, but also promoting and inculcating an environmentally sustainable culture by: reducing energy and water consumption; increasing energy efficiency; optimizing resource utilization; and reducing the carbon footprint of business operations.

In addition to covering the strategic level requirements associated with implementation of an EnMS, the chapter also describes:

- The Energy Service Companies (ESCO) Model and how it is applied in KSA
- Energy auditing: prerequisites, procedures, and reporting
- Energy data analytics: reporting and tracking methods, fundamental and advanced methods
- Implementation of Measurement & Verification (M&V)
- The Monitoring Based-Commissioning (MBCx) Process
- Implementation of Energy Management and Information Systems (EMIS)

#### 6.3 Chapter 2.2: Sustainability

This chapter will support entities in contributing to the national commitment to sustainability by:

- Highlighting the need for a focus on sustainability when carrying out FM activities
- Guiding entities in integrating a Sustainability Management System Framework into FM activities
- Outlining an approach for improving performance and setting objectives – considering compliance obligations; environmental aspects; and sustainability rating system standard methodologies



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- Providing mechanisms to assess operational risks and opportunities which will enable measures to ensure sustainable operations are optimized
- Signposting to globally recognized sustainability reporting approach to track performance and drive consistency across entities whilst aligning with the sustainable development goals and Vision 2030
- Aligning the Entity with current best-practice and international standards
- Providing an approach to enable continuous improvement of performance

### 7.0 METHODOLOGY

Each volume of the NMA&FM has been created by a team of world-class experts in their field, using latest standards and best-practice knowledge, based on decades of experience.

To ensure that the Entity is compliant with Royal Decrees, local standards, and regulations; and to support the Entity's decision-making process associated with the management of facilities: four tiers of linguistic classification have been used within the NMA&FM as follows:





-  **Shall:** This is a mandated instruction which must be followed or adhered too. For example, a royal decree, in local standards such as the Saudi Building Code
-  **Should;** This is an instruction or piece of information which is important and whilst it may not be mandated to follow the advice, is it is advisable to follow. For example, international standards which are considered legislation in other countries
-  **Consider;** This is an advice which is important and fits well for the purpose. You are advised to consider this as an instruction worth following
-  **Advise;** This is generally good practice and practical advice, intended to raise the standards and provide quality



Figure 1 – Methodology

### 8.0 ATTACHMENTS

Attachment 1 – Contents List, National Manual of Assets and Facilities Management, Volume 17



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### Attachment 1 – Contents List, National Manual of Assets and Facilities Management, Volume 17

National Manual for Assets and Facilities Management Contents List	Doc. No.
Volume 17: Energy Management and Sustainability	
Chapter 1: Introduction	
Energy Management and Sustainability Introduction Guideline	EOM-ZN0-GL-000001
Chapter 2: Energy Management and Sustainability	
Energy Management Procedure	EOM-ZN0-PR-000001
Sustainability Procedure	EOM-ZN0-PR-000002