



**NSAI**  
Standards

Irish Standard  
I.S. 399:2014

# Energy efficient design management – Requirements with guidance for use

## I.S. 399:2014

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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Údarás um Chaighdeáin Náisiúnta na hÉireann		

**DECLARATION**

**OF**

**SPECIFICATION**

**ENTITLED**

**ENERGY EFFICIENT DESIGN MANAGEMENT –**

**REQUIREMENTS WITH GUIDANCE FOR USE**

**AS**

**ENERGY EFFICIENT DESIGN MANAGEMENT –**

**REQUIREMENTS WITH GUIDANCE FOR USE**

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NSAI in exercise of the power conferred by section 16 (3) of the National Standards Authority of Ireland Act, 1996 (No. 28 of 1996) and with the consent of the Minister for Jobs, Enterprise and Innovation, hereby declares as follows:

1. This instrument may be cited as the Standard Specification (Energy efficient design management – Requirements with guidance for use) Declaration, 2014.

2. (1) The Specification set forth in the Schedule to this declaration is hereby declared to be the standard specification for Energy efficient design management – Requirements with guidance for use.

(2) The said standard specification may be cited as Irish Standard 399:2014 or as I.S. 399:2014.

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## **Foreword**

This standard has been developed in accordance with the requirements of ISO/TMB/JTCG “Joint technical Coordination Group on MSS” which has determined that all management system standards shall, in principle, use consistent structure, common text and terminology so that they are easy to use and compatible with each other.

To this end ISO/IEC Directives, Part 1, Consolidated ISO supplement, 2013 includes Annex SL (normative) ***Proposals for management system standards*** has established a high level structure, identical subclause titles, identical text and common terms and core definitions for all ISO management system standards.

As the NSAI Energy Efficient Design Project Group has established as a principle that I.S. 399 can be integrated with ISO 50001 or ISO 90001, it has adopted the ISO high level structure to ensure the best possible application of the standard.

## Introduction

The purpose of this management system standard is to enable organizations establish a systematic approach to the design, construction and commissioning of new investment projects so as to minimise their energy use and consumption in their operating lifecycles. Such projects may include new, modified and renovated facilities, buildings, equipment, systems and processes.

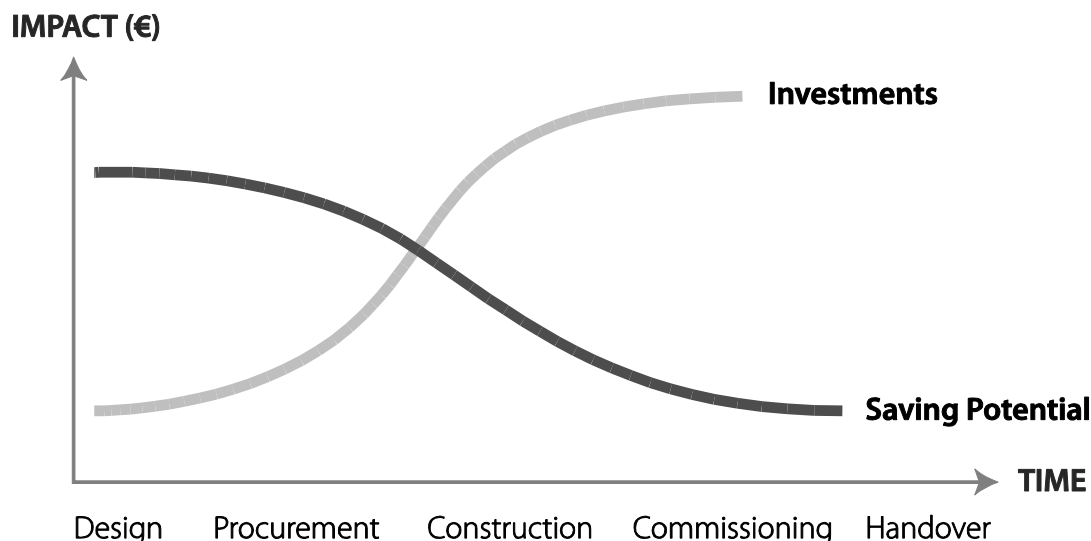
The standard has been developed as a management system standard in order to implement a Plan – Do – Check – Act continual improvement framework into the everyday practices of organizations engaged in design.

I.S. 399 provides the organizational structure for management of energy efficient design and the processes and controls necessary for its effective implementation.

The standard can be implemented by any organization involved in the design lifecycle including; owners/investors, engineering design contractors, energy service companies, equipment suppliers and/or independent energy experts. The use of this standard is relevant to all of these parties however the manner of its application will vary.

While I.S. 399 has been developed mainly from the perspective of the investor organization where the energy benefits will accrue, the implementation of the standard may be undertaken by organizations other than the investor.

A typical relationship between the financial savings impact of energy performance opportunities and the timing of their capital investment is illustrated in Figure 1. Opportunities developed in the design stages will provide the best return-on-investment. Through the application of an energy efficient design management system, capital outlay associated with over-design or poor design can be avoided. This will also avoid costly energy performance improvements implemented post handover.



**Figure 1 — Relationship between capital investment and saving potential**

I.S. 399 can be implemented as a stand-alone management system for energy efficient design management or alternatively it may be integrated within ISO 50001 or ISO 9001 management systems where these are in place in an organization. Integrated in this manner the standard could be most effective.

This Standard is applicable to any organization wishing to ensure that it conforms to its stated energy efficient design management policy and wishing to demonstrate this to others. Such conformity may be confirmed either by means of self-declaration or by certification by an external organization. While not specifically developed for third party certification – this standard may be used for that purpose if an organization chooses to do so.

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I.S. 399 may also be used as guidance for discrete project applications. While such application of the standard will provide value, in the longer term an organization will derive most benefit through a management system that continually strives for improvement of the energy efficient design management process.

Figure 2 illustrates the management system model applied in I.S. 399.

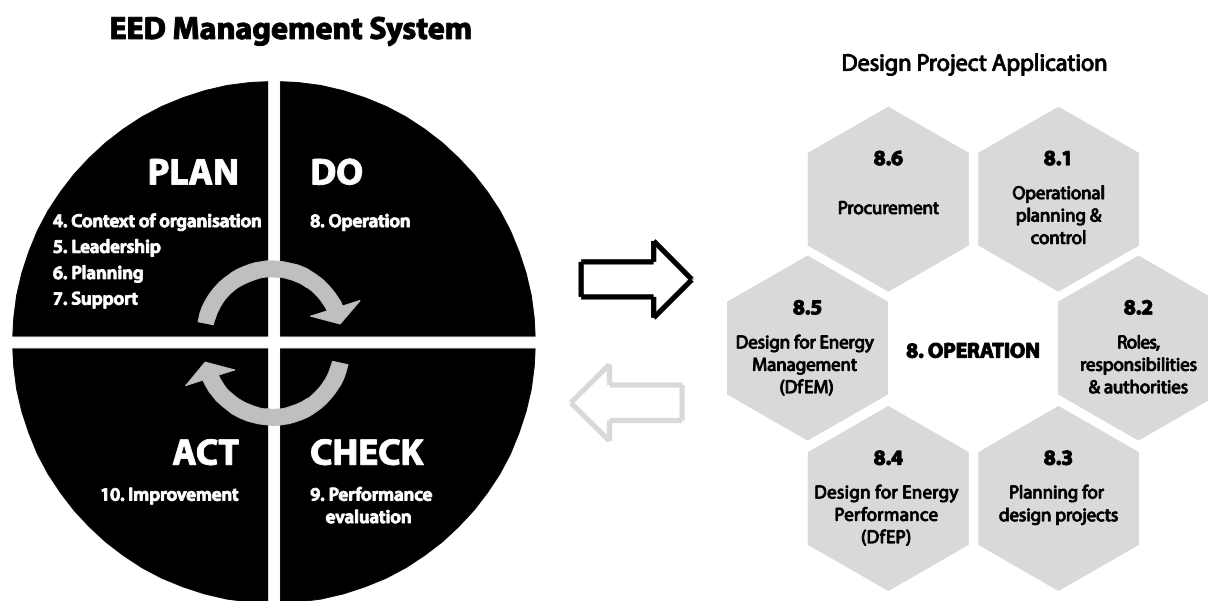


Figure 2 — Management system model for I.S. 399



## Schedule

### Energy Efficient Design Management – Requirements with Guidance for Use

## 1 Scope

This standard specifies requirements for establishing, implementing, maintaining and improving an energy efficient design management system. Its purpose is to enable an organization continually achieve best possible energy performance outcomes for investment projects. These include new, modified and renovated facilities, buildings, equipment, systems and processes.

This standard specifies requirements for top management, for the organization and for the design project application. It specifies energy efficient design management requirements up to and including final commissioning and handover to the operator.

This standard is applicable to all organizations engaged in design and procurement activities that have the potential to contribute to energy performance and avoided energy consumption.

The scope of this standard does not specify requirements for certification of projects.

The scope of this standard does not specify energy performance targets for new, modified and renovated facilities, buildings, equipment, systems and processes.

This standard also provides, in Annex A, informative guidance on its use.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

I.S. EN ISO 50001, *Energy management systems – Requirements with guidance for use*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.01

#### audit

systematic, independent and documented **process** (3.35) for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

Note 1 to entry: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined audit (combining two or more disciplines)

Note 2 to entry: “Audit evidence” and “audit criteria” are defined in ISO 19011

### 3.02

#### baseline design

agreed reference design used to calculate the impact of energy performance opportunities

Note 1 to entry: The baseline design should be agreed based on the current design state including any design decisions made up to that point.

Note 2 to entry: The baseline design uses information and data that is available. If required it will use assumptions and estimation where engineering data or information is not yet available.

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