

I.S 399

Energy Efficient Design Management

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Formal launch 3rd December 2014

Standardisation Team

Standardisation Development Team - I.S. 399 Energy Efficient Design Management

Industry



Engineering and Energy Service Companies



Professional Bodies



National Authorities



Energy Efficient Design [I.S399]

Organisation, processes, guiding principles and control implemented in design projects for the purpose of reducing the lifecycle energy consumption of its energy use

ISO50001 IMPLEMENTATION WEAKNESS

Business case

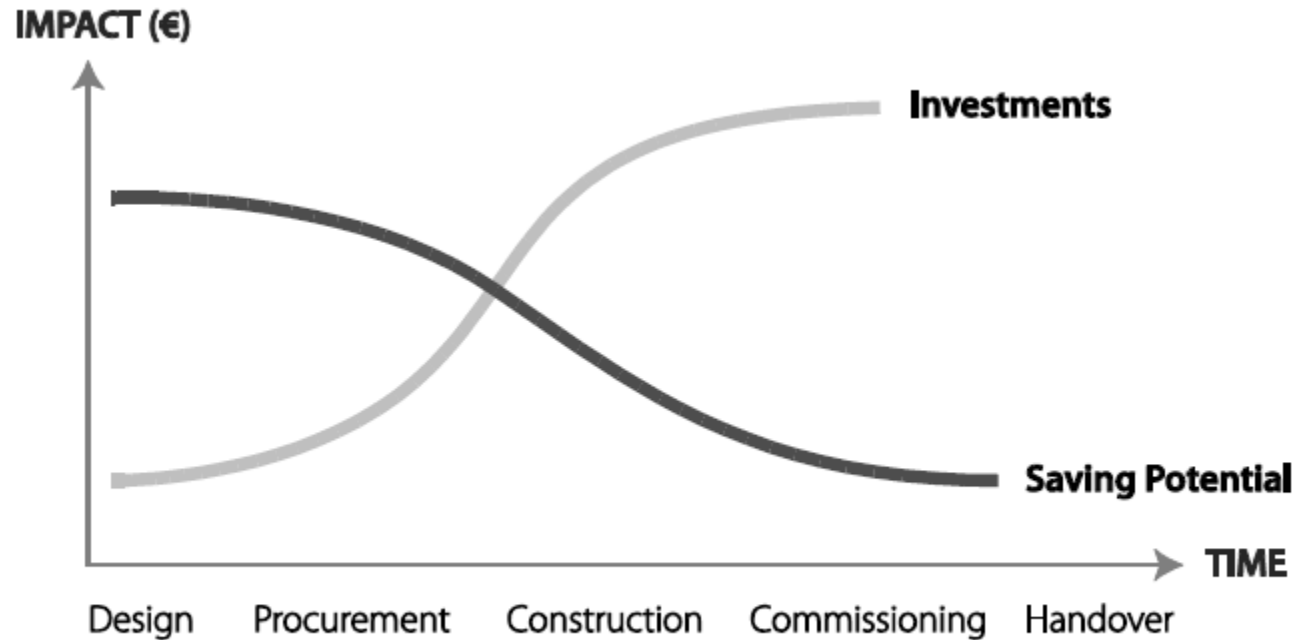


Figure 1 — Impact of project lifecycle on energy saving potential and investment cost

-
- Relevant to all stakeholders
 - Any sector, any organisation, any project



(Very) **High-level overview of the
Standard**

Management System Model

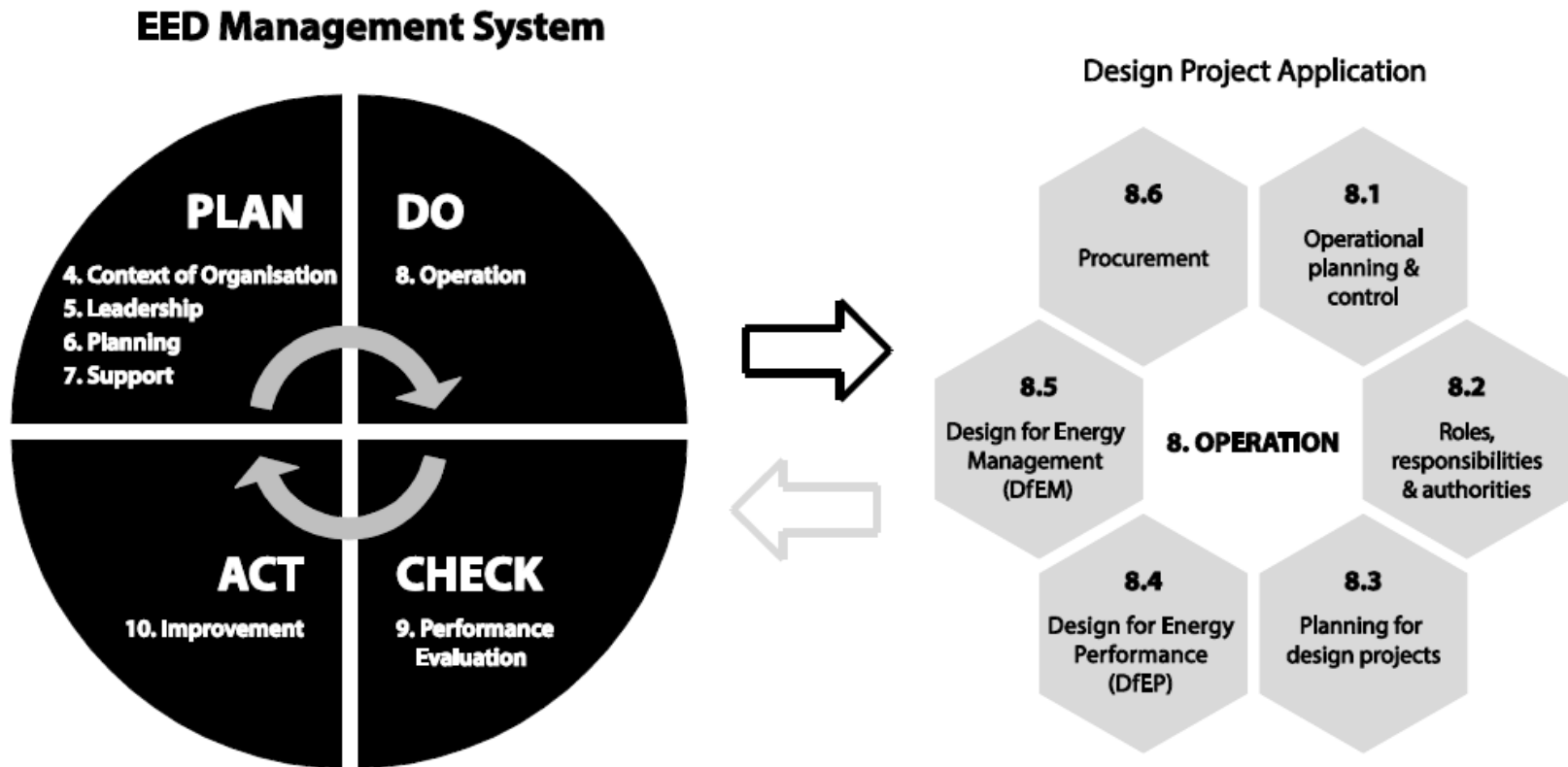
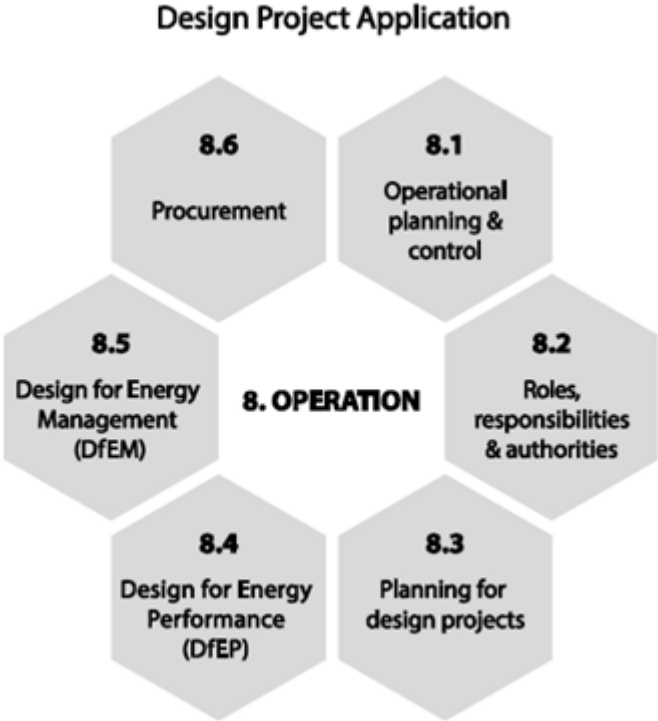
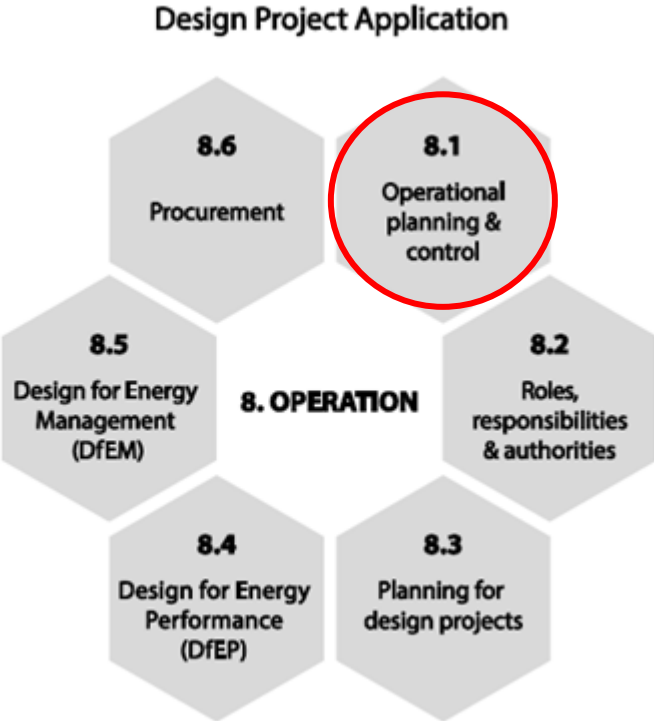


Figure 2 — Management system model for I.S. 399

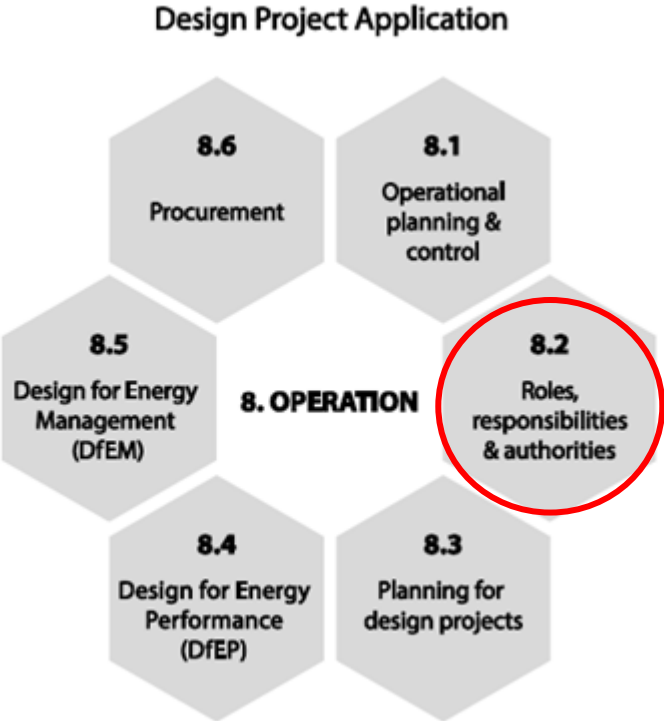
Management System Model



Management System Model

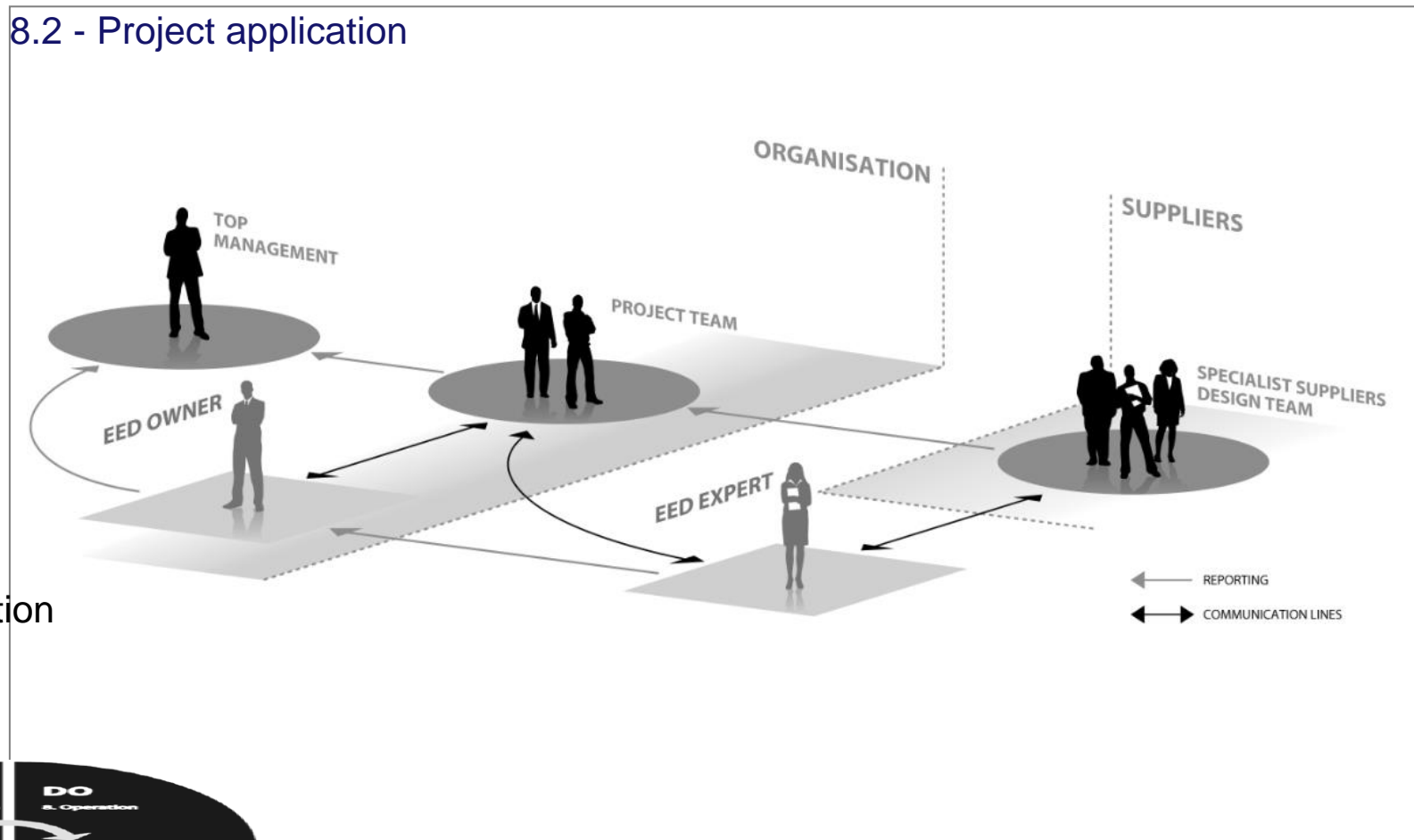


Management System Model



Organisational roles, responsibilities, authorities

8.2 - Project application



← REPORTING
↔ COMMUNICATION LINES

5.3 - Organisation



Management System

EED Owner

Accountable to Top management for implementing the requirements of the Standard within the design project application.

EED Expert

Responsible for the day-to-day execution, coordination and management of the EED activities during the project lifecycle.

Energy Venn diagram

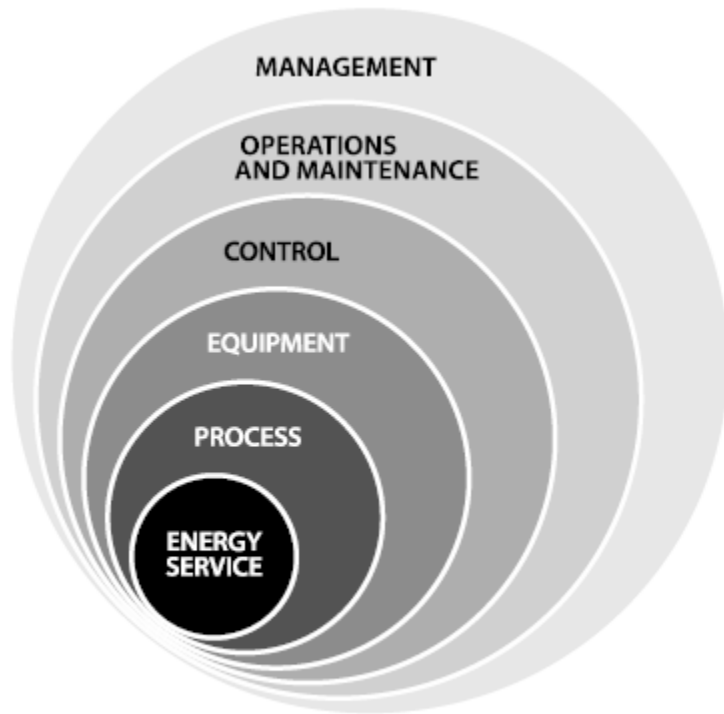
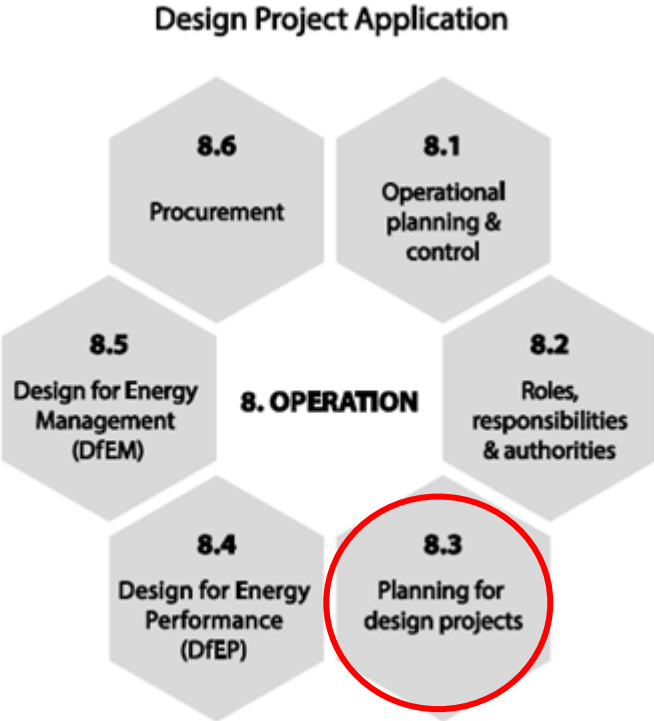


Table A.1 — Energy Venn diagram as applies to a lighting system

Layer	Definition	Lighting Example
Energy Service	The desired outcome that necessitates the usage of energy	Luminance level for office tasks
Process	The means by which the energy service is achieved	Natural/artificial lighting
Equipment	The constituent parts of the process	Fixtures, shading devices, sensors
Control	The control applied on the above equipment	Automation systems, switches
Operation and Maintenance	The on-going operation and maintenance applied to the equipment	Optimal change-out of light tubes, alignment to evolving occupancy patterns
Management	The on-going management of the equipment including general housekeeping, logging, etc	Awareness campaigns, EnPI's

Figure A.2 — Energy Venn diagram

Management System Model

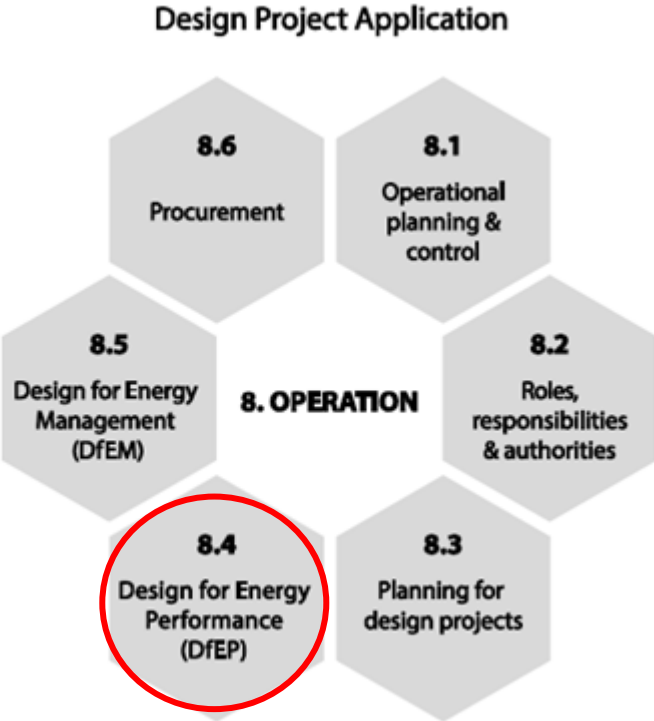


EED Project Execution Plan

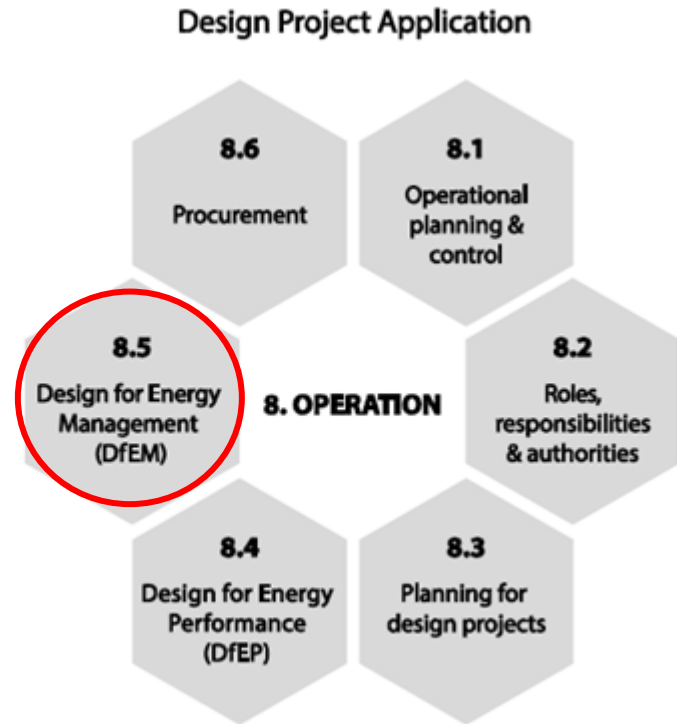
Governing document - main communication vehicle

- a) requirements for design for **energy performance** and design for **energy management**,
- b) a list of energy efficient design **project objectives**,
- c) requirements for **energy measurement**, monitoring and reporting,
- d) **project timelines** for the delivery of energy efficient design project objectives,
- e) an appropriate **schedule of design project reviews** focused on energy efficient design,
- f) **communication requirements** between the EED owner, EED expert and the project design team,
- g) a list of **interested parties**, their relationship to the design project, their relevance to energy efficient design, and communication requirements,
- h) **varying operating conditions** that the project is likely to experience when operating
- i) **criteria** by which significant energy uses are determined,
- j) **criteria for selecting** energy performance opportunities for implementation,
- k) **criteria for measurement and verification** of the energy performance of implemented opportunities,
- l) a **procurement and contracting strategy** and how they impact on energy efficient design,
- m) a list of identified **risks and opportunities** related to the design project, implemented opportunities and energy performance including those identified in 6.1,
- n) consideration of **any national policies or other mechanisms** that could support the viability of energy performance opportunities

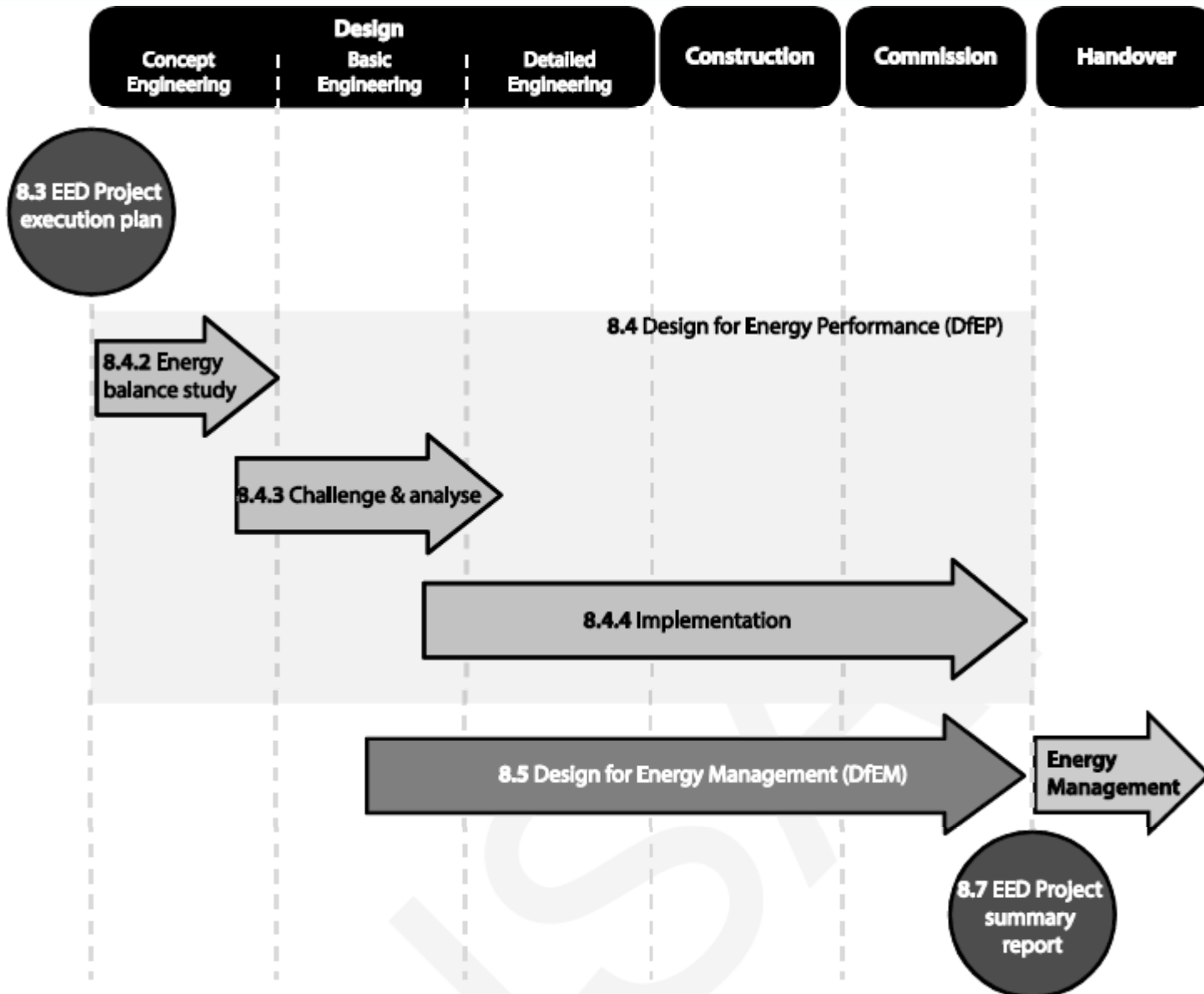
Management System Model



Management System Model



Suggested sequence of activities



EED Project summary report

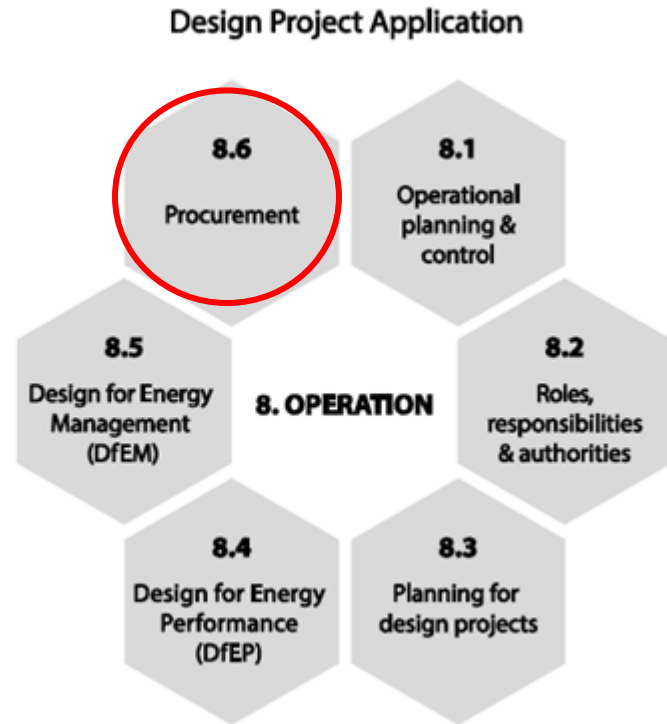
Purpose is to document EED project and to feed continual improvement.

Includes:

- a) outputs of the DfEP process including the extent of avoided energy consumption,
- b) outputs of the DfEM process,
- c) description of any co-benefits arising. e.g. environmental, production, quality, and health and safety benefits,
- d) financial implications including capital expenditure, operational expenditure and associated return on investment,
- e) all opportunities not implemented and documented in the ESR which could be revisited in the future,
- f) a list of relevant handover documentation,
- g) lessons learnt.

- Generated by EED Expert
- Reviewed and approved by EED Expert

Management System Model



1. Learn more about IS399 – Energy Efficient Design Management
2. Consider your application of same as an organisation or for discrete projects
3. What are the obstacles for its use?
4. How can SEAI support or assist?
5. Significant avoided energy consumption lowers initial baseline from which further energy management improvement commences – lifecycle impacts

