SDG 7.2.4

Plan to reduce energy consumption

The University of Sharjah has an energy efficiency plan in place to reduce overall energy consumption, as outlined in the Energy and Water Efficiency Planning Policy (**Policy No. PTR-FMP-24).** The policy establishes a structured process for planning, approving, and implementing energy-efficiency projects across the university. It requires the Energy/Water Engineer to prepare annual energy-efficiency project lists, conduct cost–benefit analyses, and monitor the implementation of each approved project. The policy also mandates post-implementation reviews to evaluate achieved energy-efficiency outcomes and identify any deviations from targeted performance.

In addition, the policy includes specific guidelines for energy conservation practices, such as installing energy-efficient lighting, optimizing HVAC systems, utilizing natural light when possible, and deploying energy-efficient appliances and equipment. Monthly energy-efficiency performance data are tracked and reported through the university's official Condition Monitoring and Management Reporting processes, ensuring systematic oversight of consumption reduction efforts.

The policy relevant to this indicator is provided in the section below.

جامعة الشارقة UNIVERSITY OF SHARJAH	Policy Main Title	Facilities Management & Planning	Effective Date	1/06/2023
	Policy Subject	Energy and Water Efficiency Planning	Last Review date	12/06/2023
	Policy Number	PTR-FMP-24	Next Review date	1/09/2025
	Responsible Entity	Head of Energy Management Section	Approved By	VC for Financial & Admin. Affairs

Overview

The Energy and Water Efficiency Planning process is set to establish clear guidelines for FMPD Energy Management Section in providing the necessary information and support to manage better and improve the efficiency in energy and water consumption at the UOS and help them reduce costs as well as benchmarking energy consumption against best practice guidelines.

Scope

This policy applies to the Energy Management Section, Head, engineers, and designers, which fall under the Facilities Management and Planning Department (FMPD), in coordination with the relevant stakeholders to carry out the aforementioned activities in a coordinated, efficient, and streamlined manner.

Purpose

The purpose of this policy is to:

- Streamline the process for initiating, approving, and executing various energy efficiency programs taken up by the Energy Management Section.

Abbreviations and Definitions

FMPD: Facilities Management and Planning Department

DoA: Delegation of Authority

FM (O&M): Facilities Management (Operations & Maintenance)

Policy

- The Energy Management Section must consider energy efficiency as a factor in product development and process, facility design, and procurement of goods and services.
- The Cost-benefit analysis should be prepared by the Energy/ Water Engineer and shared with the Head of the Energy Management Section for each planned energy efficiency project. The cost-benefit analysis, along with the budget, should be reviewed and approved by the Head of the Energy Management Section and the FMPD Director prior to initiating the project.
- The Energy/ Water Engineer must conduct regular monitoring of the project to ensure the timely execution of the project and the alignment within the specified budget.
- The Energy/ Water Engineer should conduct a post-implementation review to monitor the energy/ water cost efficiency plans achieved from the project. Any deviation from the targeted efficiency has to be discussed with the Head of the Energy Management Section to take adequate measures during the project.

- Active participation and engagement of students, faculty, staff, and other stakeholders in sustainability initiatives must be encouraged.
- Any unexpected cost of the project should be approved by the Head of the Energy Management Section and FMPD Director.
- The Head of the Energy Management Section must be responsible to undertake initiatives to reduce water consumption and maximize energy conversation.

Guidelines for Efficient Water Management:

- Regular inspection and maintenance of plumbing systems to prevent leaks and water wastage must be done.
- Water-efficient fixtures, such as low-flow toilets, faucets, and showerheads, should be utilized.
- Smart irrigation systems and landscape design that minimizes water consumption for outdoor areas should be utilized.
- Reuse of water for non-potable purposes, such as landscaping and cleaning, must be encouraged

Guidelines for Energy Conservation Practices:

- Energy-efficient lighting solutions, such as LED bulbs, in all areas of the institute should be installed.
- The use of natural light and implementing daylight harvesting techniques must be utilized, where applicable.
- HVAC systems should be optimized for energy efficiency through regular maintenance, insulation improvements, and thermostat programming.
- Energy-efficient appliances and equipment should be installed throughout the institute, including computers, printers, and kitchen appliances.

Procedure

A detailed description of how to carry out this process is shown in the below table and flowchart.

Step	Process Activity	Responsibility	Inputs	Outputs
1	The Energy/ Water Engineer prepares the annual list of energy and water efficiency projects (in consultation with the Head of the Energy Management Section).	Energy/Water Engineer	-	-
2	The Energy/Water Engineer prepares the cost and benefit analysis for planned energy efficiency projects. *Note: Input is to be taken from various sections such as procurement, FM (O&M) Section, Projects Management Section, etc.*	Energy/Water Engineer	-	Cost-benefit analysis
3	The Head of the Energy Management Section reviews and approves the Cost-Benefit analysis for each project once it is aligned with the objectives of the Energy Management Section.	Head of Energy Management Section	-	-
D1	The Head of the Energy Management Section determines if any changes are required. In case any changes are "required", proceed to Step 4. The Head of the Energy Management Section provides feedback and suggests the changes required. In case of any changes are not required, proceed to step 5. The Head of the Energy Management Section approves the cost and prepares a consolidated annual budget for energy efficiency projects.	Head of Energy Management Section	-	-
4	The Head of the Energy Management Section provides feedback on the Cost and Benefits Analysis based on the approved departmental standards and budget and suggests changes as and when required.	Head of Energy Management Section	-	-

Step	Process Activity	Responsibility	Inputs	Outputs
5	The Head of the Energy Management Section approves the cost and prepares a consolidated annual budget for energy efficiency projects.	Head of Energy Management Section	-	Budget – Energy/water efficiency budget (EWS-UOS-001 Energy and Water Efficiency Budget.dc
6	The Head of the Energy Management Section shares the budget along with Cost – Benefit Analysis with FMPD Director for review and approval.	Head of Energy Management Section	-	-
7	The FMPD Director reviews and approves the budget and Cost-benefit analysis report. As and when required, the FMPD Director recommends changes and obtains approval as per the DoA.	FMPD Director	-	-
8	The Energy/Water Engineer executes the projects as per the approved plan and monitors the progress and cost of the project in line with the approved project budget.	Energy/Water Engineer	-	-
9	The Energy/Water Engineer monitors the energy and water efficiency implementation post-completion of the Project. Refer to the Process Output "PTR-FMP-23 Condition Monitoring" (from Energy, Water, and Sustainability Manual).	Energy/Water Engineer	-	Project energy/ water efficiency tracking
10	PTR-FMP-23 Condition Monitoring shares monthly data on energy/ water efficiency and the target efficiency with the Head of the Energy Management Section for review. Refer	Energy/Water Engineer	-	-

Step	Process Activity	Responsibility	Inputs	Outputs
	to the Process Output "Management Reporting" (from Business Management Manual).			

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جامعة الشارقة UNIVERSITY OF SHARJAH

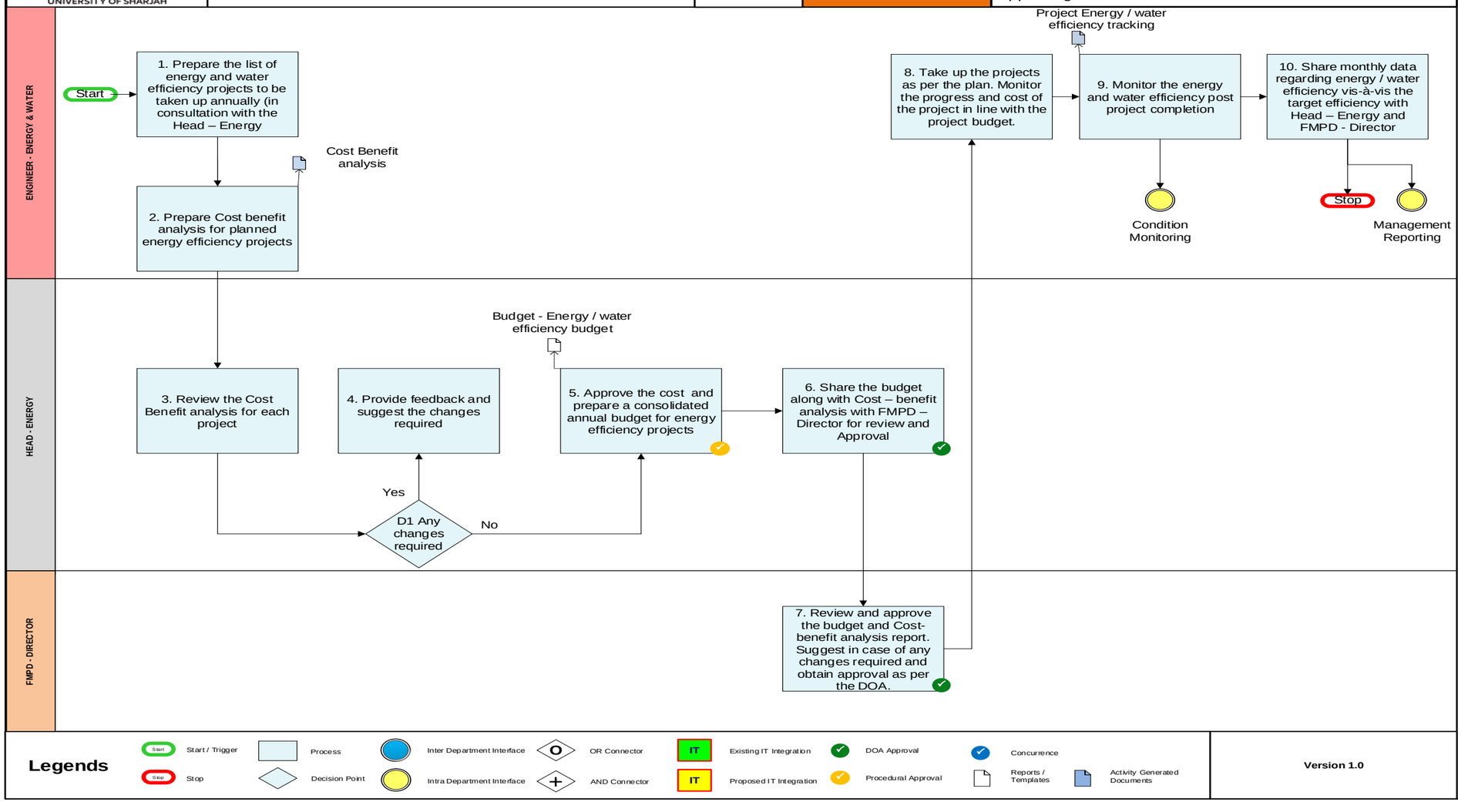
PROCESS FLOW DIAGRAM

Process : **Energy & Water Resources Efficiency Planning** | **Figure – 2.2**

ENERGY / WATER & SUSTAINABILITY

Process Owner / Responsible: Energy / Water & Sustainability

Consulted: Engineer - Energy & Water, Head - Energy, Approving Authorities



Version 1.0

Key Notes

1. Engineer – Energy & Water prepares the list of energy and water efficiency projects to be taken up annually (in consultation with the Head – Energy.

2. Engineer – Energy & Water prepares the cost benefit analysis for planned energy efficiency projects

Note: input to be taken from various department like procurement, O&M, FMPD, Projects, Planning & Design etc.

3. Head – Energy reviews and approve the cost benefit analysis for each project

D1 Head – Energy checks for any changes required?

If Yes, Proceed to Step 4

If No, Proceed to Step 5

4.Head – Energy, provides feedback and suggests the changes required

5. Head – Energy approves the Cost & Benefit analysis and prepares a consolidated annual budget for energy efficiency projects

6. Head – Energy share the budget along with Cost – benefit analysis with FMPD – Director for review and Approval

7. FMPD – Director reviews and approve the budget and Cost-benefit analysis report. Suggest in case of any changes required and obtain approval as per the DOA.

8. Engineer – Energy & Water takes-up the projects as per the plan and monitors the progress and cost of the project in line with the project charter.

9. Engineer – Energy & Water monitors the energy and water efficiency post project completion

Refer : Condition Monitoring process

10. Engineer – Energy & Water shares monthly data regarding energy / water efficiency vis-à-vis the target efficiency with Head – Energy and FMPD – Director

Refer : Management reporting process

Energy and Water Resources Efficiency Planning Process Flowchart