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Energy Management & ISO 50001 Energy Management System (EnMS)

Energy management is the process of continuous monitoring and optimisation of energy production and use within an organisation. Energy management can start with simple activities like tracking electricity consumption, and could eventually include large projects like optimising or replacing a chiller plant, installing a solar PV system, or entirely replacing a building with a more efficient one.

ISO 50001:2018 EnMS standard provides a framework for the best practices in energy management. The figure below shows the four main stages outlined by the standard, based on the Plan - Do - Check - Act (PDCA) framework.

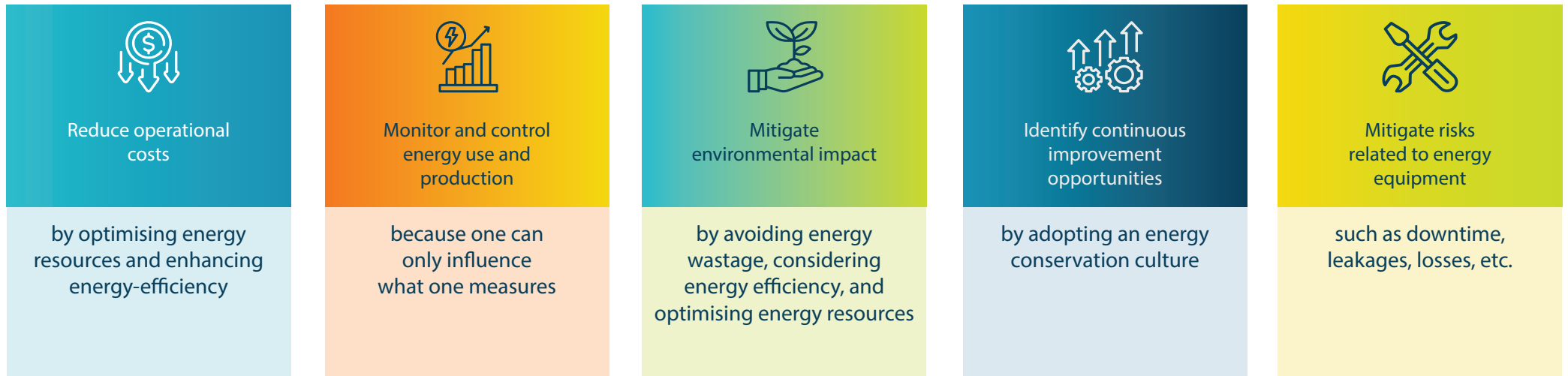
The EnMS described in this document is based on PDCA.

ISO 50001:2018 Framework:



Why Energy Management?

Regardless of the type of organisation, whether government, commercial, residential or industrial, energy management is an easy way to:



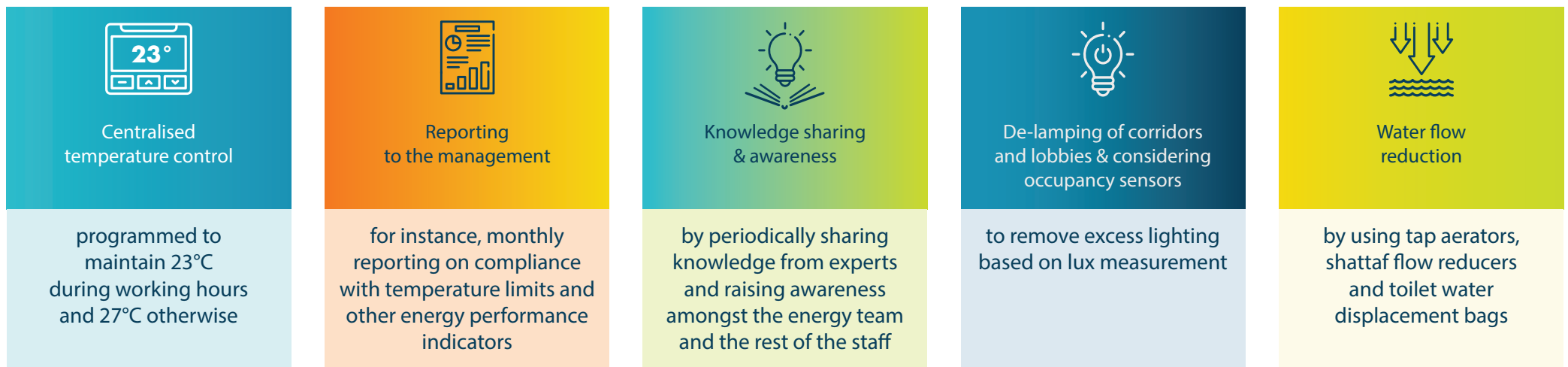
An EnMS is essential for competitiveness and sustainability of any organisation - however big or small. Although every organisation is different, we found that an EnMS is flexible enough to be deployed anywhere successfully, with some adaptations.

Our experience in the Government of Ras Al Khaimah yielded benefits in a range of organisations, with sizes ranging from less than 10 to over 2,000 employees, including industrial facilities and service-oriented organisations.

Government of Ras Al Khaimah: A Success Story

Ras Al Khaimah government has adopted an EnMS, and is the first government in the world to have achieved the ISO 50001 certification across all of its entities.

The EnMS has been instrumental to reducing electricity consumption of Ras Al Khaimah government by 23.5% between 2019 and 2022, through a combination of asset upgrades and behavioural changes. Examples of the most effective measures are listed below:



What is in this Guide for You?

If you are looking for:



You're in the right place!



This guidebook and accompanying templates provide practical steps to establish energy management practices that will help reduce your energy consumption and reach ISO 50001 certification readiness.



This guidebook is a result of practical experience of the Government of Ras Al Khaimah in adopting ISO 50001 EnMS standards across more than 20 organisations with nearly 100 buildings and 4,000 employees overall.

Energy Management System (EnMS) Structure



The guidebook is structured in 2 levels, to support organisations at different degrees of maturity:

Level 1 - Fundamentals of Energy Management

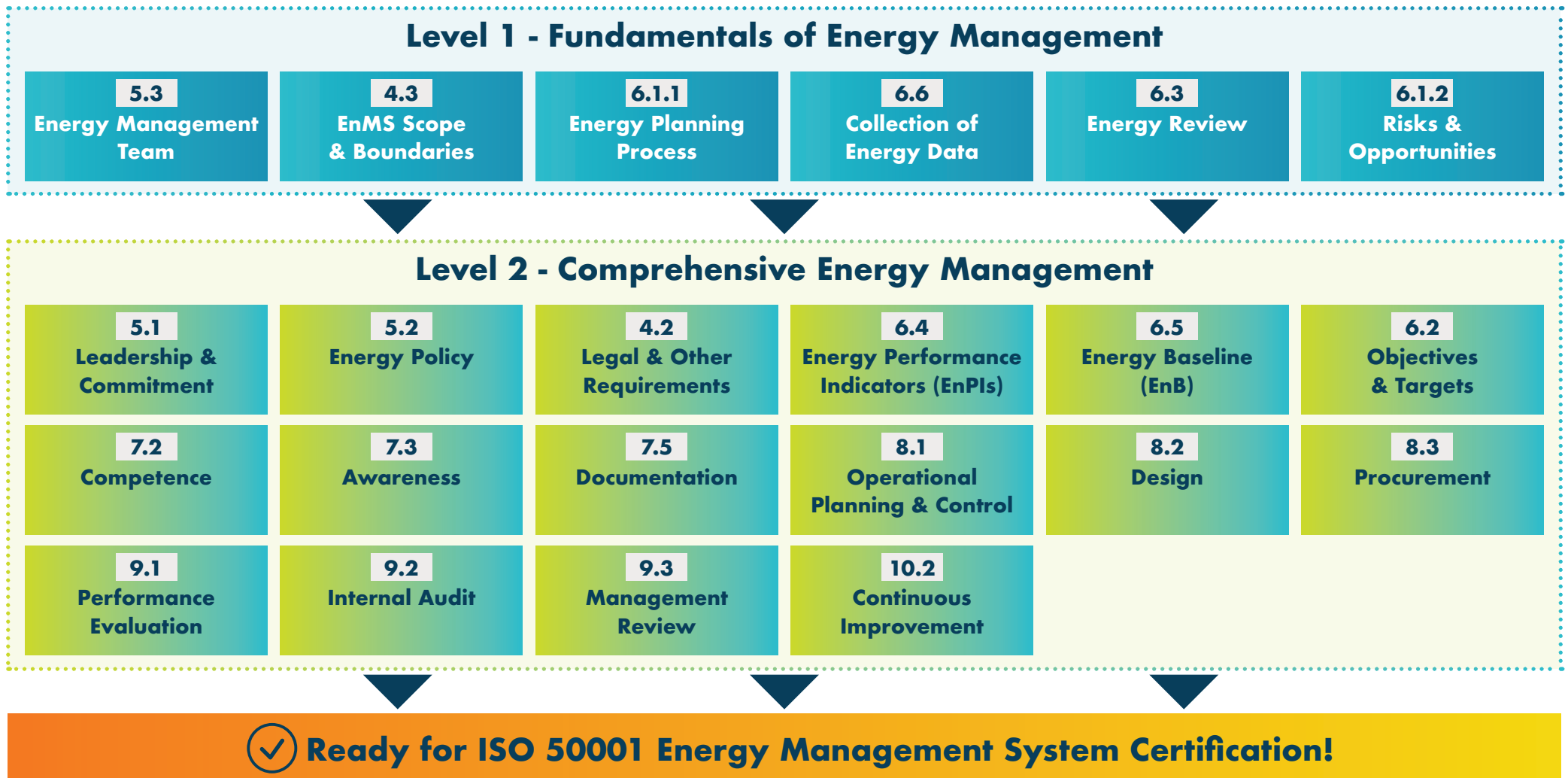
Level 1 helps lay the groundwork for energy management, using 6 important, yet simple, steps to deploy an initial energy management system and start achieving benefits.

Level 2 - Comprehensive Energy Management

Level 2 adds 16 more activities to the 6 from Level 1, providing a straight forward approach to a complete EnMS, ready for ISO 50001 certification.

Levels 1 and 2 are sequential and complementary. The processes implemented at both levels can integrate perfectly, to reach ISO 50001 EnMS certification readiness.

Energy Management System (EnMS) Structure



NOTE: The numbers refer to the relevant section of the ISO 50001 standard for reference

Energy Management System (EnMS) Structure

The next sections of this document articulate each component of **Level 1** and **Level 2** with a description of what needs to be implemented at each step, practical tips, and examples.

Each section contains the following blocks:

ISO 50001 EnMS Requirements:

The core requirements of ISO 50001 related to each step or activity are summarised in this block.



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

This block lists the final results or documentation, related to each activity, that are required in order to prove compliance with ISO 50001.



Practical Actions and Tips:

This block provides practical advice on how the activity or step can be completed to obtain benefits for the organisation and in compliance with ISO 50001.

Sample Templates from Ahmed Corporation:

For the purpose of providing practical, realistic examples, this block provides extracts of EnMS documents of an imaginary organisation, Ahmed Corporation.

Ahmed Corporation is a fictitious company doing commercial R&D projects to study and test new technologies.

Level 1

Fundamentals of Energy Management

Energy Management System (EnMS) Structure

Level 1 - Fundamentals of Energy Management

5.3
Energy Management Team

4.3
EnMS Scope & Boundaries

6.1.1
Energy Planning Process

6.6
Collection of Energy Data

6.3
Energy Review

6.1.2
Risks & Opportunities

Level 1 is a first step tailored to an organisation that is starting with energy management. It lays the groundwork for an EnMS, using the 6 steps above to establish an initial energy management process within the organisation.

Level 1 allows an organisation to start being aware of its energy consumption and take some steps towards systematically identifying energy saving opportunities or energy risks. It avoids many of the requirements of ISO 50001 for documentation, audit, and internal interfaces, therefore minimising the amount of paperwork required.

Any organisation can fully adopt Level 1 within 3 months, even with a part-time allocation of resources to the energy management team. Following adoption of Level 1, it is recommended to allow up to 6 more months of ongoing energy management processes, for the benefits of energy management to be apparent in terms of operational improvements, behavioural changes and even some energy savings.

Following satisfaction of the organisation's leadership with the benefits of energy management, the energy management team can move to Level 2 and obtain the wider and longer-term benefits of an EnMS compliant with ISO 50001 standards.

5.3 Energy Management Team

ISO 50001 EnMS Requirements:

Establish a team with clear roles and responsibilities to develop and run the EnMS.

Ensure regular team meetings and progress reports to management.



Practical Actions and Tips

- Select 3-6 mid-senior employees for the team, covering the relevant departments of the organisation. Usually, these departments are procurement, finance, projects, engineering, facility management, operations and alike, but other departments may be added depending on how the company is organised
- Assign clear roles and responsibilities related to energy management to each team member
- Arrange fortnightly or monthly team meetings to address three main topics:
 - Energy consumption trends and opportunities for improvement
 - Energy saving actions taken, results, and related corrective actions if needed
 - Any other related issues (incidents, leakages, etc.)
- Report actions, results, challenges and next steps to the CEO and/or the board every 3 to 6 months



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Management nomination and internal announcement of the energy management team
- Minutes of all meetings
- (For a future audit) Designation of each team member in the organisational chart
- Management reports

5.3 Energy Management Team Roles & Responsibilities Template (download from page 30)

Task Name	Frequency	Relevant Documentation	Lead Task	Support Task	Communication	Status of Task
High level supervision	Continuous		Energy Principal	Energy Team	Top Management	Ongoing
Organisation context						
Understanding the organisation and its context						
Determine issues that affect the company ability to achieve the outcome of the EnMS	Annually	Organisation context	AA	Energy Principal	Top Management	Complete
Understanding the needs and expectations of interested parties						
Determine relevant interested parties and their requirements and identify legal and other requirements	Annually	Organisation context	MM	Energy Principal	Top Management	Complete
Ensure that the organisation has access to the legal and other requirements related to its energy use	Annually	Organisation context	MM	Energy Principal	Top Management	Complete
Determine how these requirements apply to its energy use	Annually	Organisation context	AA	Energy Principal	Top Management	Complete
Scope of the energy management system						
Develop the scope and boundaries of the EnMS	Initial Only	Organisation context	AA	Energy Principal	Top Management	Complete
Leadership						
Leadership and Commitment						
Management to demonstrate leadership and commitment by and conforms to ISO 50001	Continuous	Energy Manual	AA	Energy Principal	Top Management	Complete
		Energy Manual	AA	Energy Principal	Top Management	Complete

4.3 EnMS Scope & Boundaries

ISO 50001 EnMS Requirements:

Define the physical and organisational inclusions in the scope of energy management, in terms of departments, offices, sites, equipment, and relevant energy sources.



Practical Actions and Tips

- Start with a complete list of offices, sites, vehicles, equipment, etc.
- Define the boundary and scope of the EnMS implementation:
 - The boundary of EnMS implementation is defined in terms of the assets and organisations including departments, buildings, vehicles, equipment, etc.
 - The scope is then defined by the type of energy used such as electricity, water, fuel, etc.

Note: Boundary and scope are strongly related. For example, it makes sense to include petrol and diesel fuels in the scope of vehicles that are included in the boundary and vice versa.



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- EnMS scope & boundaries

4.3 Scope and Boundaries of the EnMS Template (download from page 30)

4.3 Scope & Boundaries of the EnMS	
Scope	Boundaries
Electricity & water	Main building and a separate mosque
Transport Fuel: Petrol	4 cars in the corporate fleet
More Details About the Organisation	
Size of the organization and its type of activities, processes, products and services	The premises include 1 main building and a separate mosque. The entity conducts research and developments projects to study more sustainable methods of energy consumption and/or opportunities in the emirate
Type of energy used within the scope & boundaries (electricity, water, fuel, etc.)	Electricity, water and fuel
Control and authority level over energy consumption and costs within the scope and boundaries	Full control
Control and authority level over occupants within the boundaries	Full control
that affect energy performance	Lack of cooperation Awareness Poor maintenance Buildings

6.1.1 Energy Planning Process

ISO 50001 EnMS Requirements:

Define an energy planning process for the EnMS by identifying the inputs, analysis process and outputs.



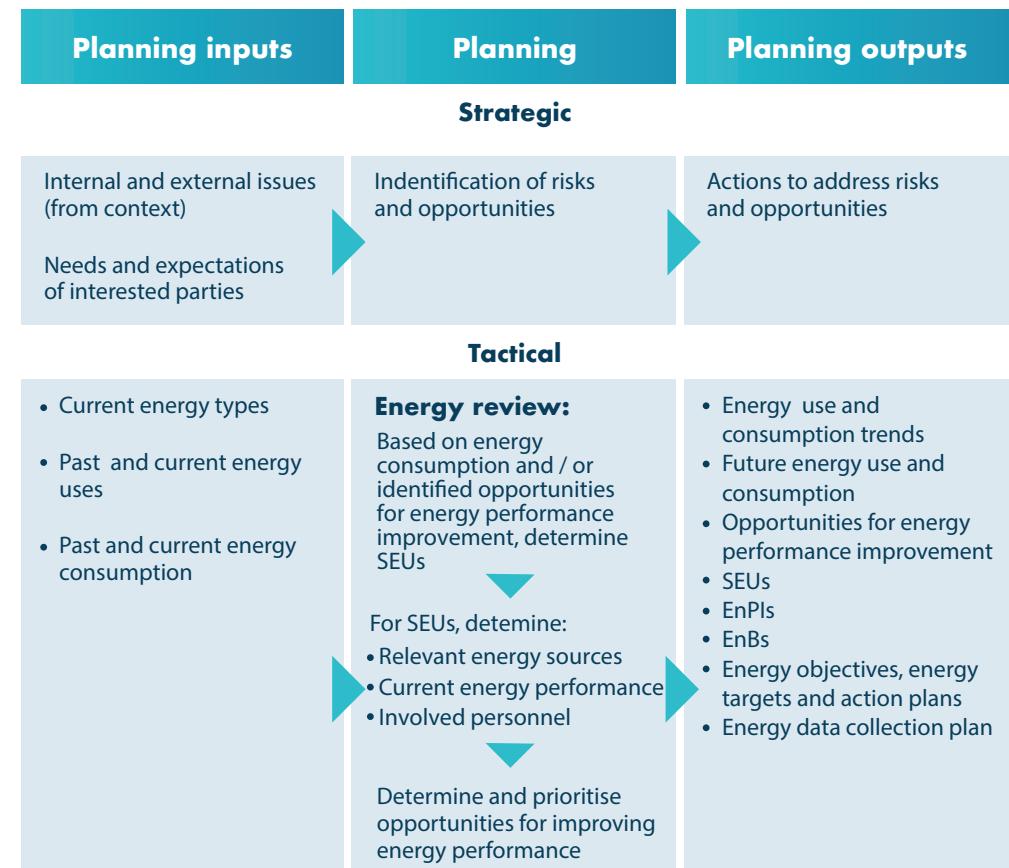
Practical Actions and Tips

- List the possible inputs of the EnMS, such as internal and external issues, needs and expectations of interested parties, current energy types, etc.
- Identify the Significant Energy Uses (SEUs) that account for substantial energy consumption and/or offer considerable potential for energy savings. For these, identify the Energy Performance Indicators (EnPIs) that will be used to measure performance improvements from their Energy Baselines (EnBs) which are the operational periods taken as reference
- List the expected outputs based on the above steps, such as actions to address risks and opportunities, energy use and consumption trends, future energy use and consumption improvement, energy objectives, energy targets and action plans, etc.
- Establish an energy planning process (see an example on the right)
- Execute the energy planning process at least once a year. Details are provided in the following pages (e.g. data collection, energy review, risks & opportunities)

Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Approved energy planning process

Energy Planning Process Template



6.6 Collection of Energy Data

ISO 50001 EnMS Requirements:

Define a plan for energy data collection, monitoring and analysis for the SEUs within the identified scope and boundaries.

Periodically collect the required data and analyse energy consumption.



Practical Actions and Tips

- Define data needs and data collection approach to create an EnB for the SEUs and their influencing factors which will enable the creation of the EnPIs, including:
 - Energy consumption: utility bills, fuel consumption and other energy expenses, usually handled by finance or accounting departments; as well as meter readings and measurements (if any) from technical departments
 - Baselining and calibration data: Information such as weather, operational hours of buildings or equipment, occupancy, and mileage of vehicles, production, etc.
- Allocate responsibilities for data collection to relevant employees
- Establish a process to periodically verify the accuracy of equipment used (if any) to collect data (e.g. calibration of meters, sensors, etc.)

Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- SEUs trackers, e.g. electricity, water, fuel, etc.
- Trackers for factors influencing SEUs, e.g. Cooling Degree Days (CDDs), vehicle mileage, production data, etc.

6.4 & 6.6 Energy Consumption Tracker Template (download from page 30)

Recording the amount and cost of energy consumed

Account No	Start	End	Days	Electricity Consumption (kWh)	Cost of Electricity (AED)	Water Consumption (IG)	Cost of Water (AED)
210000111111	08/Jan/19	06/Feb/19	29	78,930	33,939.90	33,356	1,534.39
210000111111	07/Feb/19	06/Mar/19	27	68,520	29,463.60	32,171	1,479.85
210000111111	07/Mar/19	06/Apr/19	30	89,453	38,464.79	33,356	1,534.39
210000111111	07/Apr/19	06/May/19	29	105,796	45,492.28	32,956	1,515.98
210000111111	07/May/19	10/Jun/19	34	133,289	57,314.27	40,656	1,870.18
210000111111	11/Jun/19	06/Jul/19	25	142,201	61,146.43	35,091	1,614.19
210000111111	07/Jul/19	06/Aug/19	30	177,867	76,482.81	27,601	1,269.64
210000111111	07/Aug/19	08/Sep/19	32	178,467	76,740.81	33,121	1,523.57
210000111111	09/Sep/19	06/Oct/19	27	156,337	67,224.91	35,329	1,625.14
210000111111	07/Oct/19	05/Nov/19	29	152,024	65,370.32	29,809	1,371.21
210000111111	06/Nov/19	08/Dec/19	32	120,287	51,723.41	32,017	1,472.78
210000111111	09/Dec/19	06/Jan/20	28	81,759	35,156.37	20,795	956.56
210000111111	07/Jan/20	05/Feb/20	29	73,786	31,727.98	21,537	990.72
210000111111	06/Feb/20	04/Mar/20	27	76,045	32,699.35	30,052	1,382.40
210000111111	05/Mar/20	05/Apr/20	31	91,141	39,190.63	33,023	1,519.05
210000111111	04/Apr/20	05/May/20	29	93,044	40,008.92	31,537	1,450.72
210000111111	03/May/20	02/Jun/20	31	105,587	45,526.72	32,280	1,484.89
210000111111	02/Jun/20	01/Jul/20	30	118,587	51,587.58	31,537	1,450.72

6.3 Energy Review

ISO 50001 EnMS Requirements:

Analyse the collected energy data.

Review organisation SEUs, where most of the energy is used or where there are large energy saving opportunities, their EnBs and the associated EnPIs.



Practical Actions and Tips

- Establish a process to monitor and analyse the collected data at regular intervals (e.g. monthly or quarterly)
- Analyse energy consumption by comparing with past data e.g. EnBs, separately for different types of uses (electricity in buildings and machinery, fuel in vehicles, etc.)
- Review SEUs that can be in terms of equipment (like HVAC systems, vehicles, lighting, etc.), buildings, operations, etc.
- Assess energy use trends per activity unit (EnPIs). Some examples are:
 - Coal use per ton of cement produced in a cement plant
 - Electricity use per occupant or per square meter of space in an office building




Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Energy Review

Reviewing SEUs, their EnBs and the associated EnPIs of the organisation

6.3 Energy Review Template (download from page 30)

 Energy Review	
Current types of energy	The entity currently uses electricity and water as its main two types of energy followed by fuel for its corporate car fleet.
Significant energy uses (SEUs)	SEUs for the entity are the three types of energy: electricity, water, and fuel.
Evaluation of past and current energy use and consumption	Past and current energy use and consumption is being recorded and tracked on the utility tracker.
Estimation of future energy use(s) and energy consumption	Future energy use(s) and energy consumption are estimated with the data recorded in the utility tracker.
Update of utility tracker	A member of the team keeps the utility tracker updated monthly with the information from the utility bills and fuel consumption. The tracker inputs are account number, electricity consumption (in kWh) and water consumption (in IG) as well as costs (in AED) for both. The tracker also records fuel consumption (in litres).
Energy baseline	The baseline year considered for the entity is 2022 across all significant energy uses (SEUs). The energy baseline is used for measuring energy performance and so is adjusted accordingly based on external independent variables such as weather. The electricity baseline, for example, is adjusted according to the weather data (via Cooling Degree Days - CDDs). The adjusted baseline (or expected consumption) is calculated using regression analysis – see the next section for information on how the regression analysis is conducted. The regression analysis is carried out. However, any change in static factors such as the number of employees, vehicles in the fleet, etc. is

6.1.2 Risks & Opportunities

ISO 50001 EnMS Requirements:

List risks and opportunities associated with SEUs and the energy management.



Practical Actions and Tips

- Identify all risks relevant to the EnMS, such as:
 - Any internal or external factors that may hinder the implementation of the EnMS
 - Factors that may increase energy consumption or threaten expected savings
 - Mitigation actions that should be considered to reduce or remove each risk
- Identify and quantify opportunities in terms of potential energy savings, necessary investment and associated payback period, for:
 - Any behavioural changes that can help reduce energy consumption
 - Any equipment upgrade or change that can save energy
 - Any facility improvement which has secondary benefits of energy savings
- Encourage all employees to contribute to finding opportunities through feedback collection mechanisms (email, survey, suggestions box, etc.)



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Risks & opportunities tracker
- Evidence that all employees can contribute to identifying risks and opportunities

Recording a list of all risks and opportunities related to the EnMS

6.1.2 Risks and Opportunities Template
(download from page 30)

Category	Action	Priority	Status	Actions achieved	Actions planned for the next month	Responsible person	Deadline (dd/mm/yyyy)
1	1.0 Utility Bill Recording						
2	Opportunity 1.1 Check, archive and record the utility and fuel bills	Medium	Approved - in progress	Collect data and log into utility tracker	Maintain same actions	EE	Ongoing
3	External Risk 1.2 Report any issue with the consumption trend (e.g. increased consumption, missing bill, etc.)	High	Approved - in progress	Investigate the increase in water consumption	Report the leakage behind the building	EE	Ongoing
4	2.0 Management Support						
5	Opportunity 2.1 Ensure formal nomination of the Energy Management Team by the Director General with the needed support on the action plan implementation	High	Approved - Completed	A team, policy and targets were approved by the management	-	-	-
6	Opportunity 2.2 Conduct periodic meetings between the management and the team to ensure smooth implementation of the Energy Management System (EnMS)	High	Approved - in progress		Organise a management meeting	EE	Before the Surveillance Audit
7	Internal Risk 2.3 Ensure the management set a saving target for electricity, water and fuel	High	Approved - Completed	A potential failure to meet targets set was identified and a corrective action plan was created and to be implemented	-	-	-
8	3.0 Awareness & Communication						
9	Opportunity 3.1 Regular communication to all employees of team establishment, policy, objectives and targets	Low	Approved - Completed	Regular communications (monthly) and as needed communications as per the awareness plan	-	-	-
10	Opportunity 3.2 Regular communication to all employees to achieve energy savings and reach the targets	High	Approved - Completed	Regular communications (monthly) and as needed communications as per the awareness plan	-	-	-
11	Internal Risk 3.3 Consider rewarding employees with outstanding contributions to energy saving actions, as an incentive to promote better behaviours	Medium	Under planning / approval	Reporting the lack of collaboration of employees towards the behavioural actions	Develop rewards plan	KK	12/31/23
12	4.0 Cooling System (HVAC)						
13	Internal Risk 4.1 (Temperature Set Point): Maintain temperature set-points at 23C during occupied periods and 27C (or switched off) during unoccupied periods	High	Approved - Need support	Analyse the received complains of the temperature set point	Propose ideas to improve comfort in the office	EE	30/11/2023
14	Opportunity 4.2 BMS is available, implement configuration in BMS to required set-points for occupied and unoccupied	Medium	Under planning / approval	Budgeted for next year	TBC	TBC	TBC
15	Opportunity 4.3 Monthly coordination meetings	Medium	Approved - in progress				

What now, after Level 1?

Mabrook!

The organisation has now implemented the fundamentals of an Energy Management System which will help to:



After about 6 months, some initial positive results should be apparent to the management in terms of energy, process efficiencies, savings, cultural changes, etc.

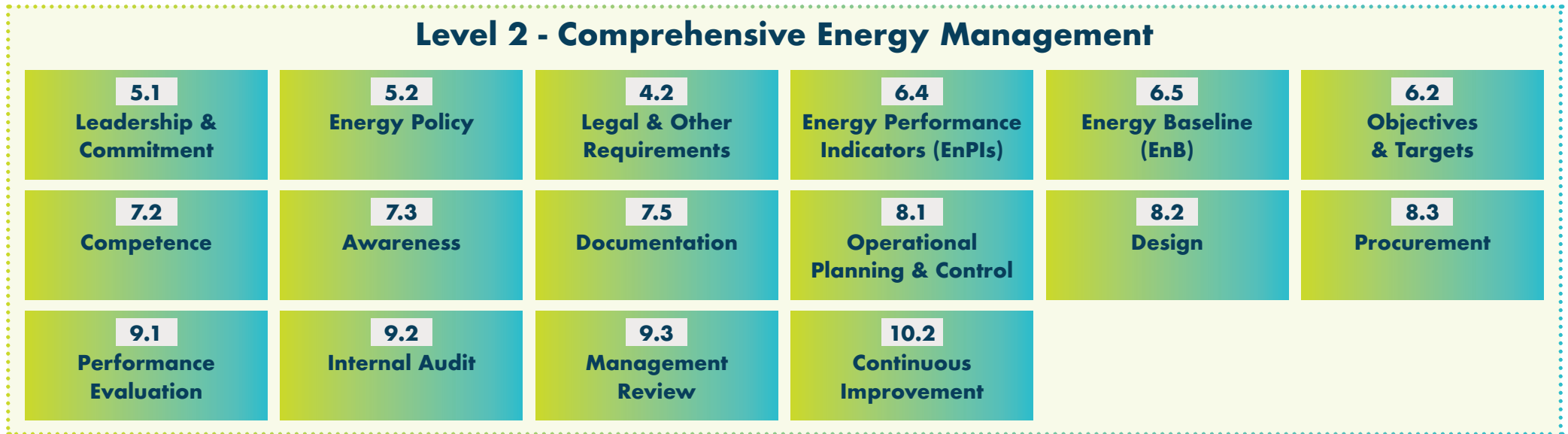
Consider progressing to **Level 2 - Comprehensive Energy Management** **to:**

- ✓ Embed energy management in the organisational culture
- ✓ Formalise the implementation of a full EnMS
- ✓ Achieve higher economic benefits
- ✓ Achieve external recognition

Level 2

Comprehensive Energy Management

Introduction to Level 2: Comprehensive Energy Management



Level 2 represents all the additional components of a complete EnMS, as shown above. These components can be deployed as a natural progression following successful implementation of Level 1.

Level 2 includes documentation, formalisation, audit and internal interface requirements within the organisation, which adds elements of good governance and stability to the EnMS, while also ensuring that energy savings are captured across the entire value chain of the organisation.

The benefits of Level 2 are mainly in the long-term. An immediate benefit is the possibility to be certified or to claim certification readiness.

5.1 Leadership & Commitment

ISO 50001 EnMS Requirements:

Ensure commitment of senior management to the EnMS.



Practical Actions and Tips

- Obtain management approval for important EnMS documents, such as:
 - Team nomination
 - EnMS boundaries and scope
 - Energy policy
 - Energy planning, energy targets and energy baseline
 - Action plans and respective resource allocations, etc.Refer to the list of documentation on **page 30** for the approvals needed
- Communicate the above-listed approvals to relevant employees (senior management and energy team) and communicate the energy policy as well as targets to all employees
- Set up periodic meetings between the energy management team and management for continuous monitoring of EnMS progress. Incorporate management decisions into the EnMS



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- All management approvals
- Evidence of communication of the above

5.2 Energy Policy

ISO 50001 EnMS Requirements:

Define an energy policy that states the main purpose of the EnMS and the organisation's commitments.



Practical Actions and Tips

- Refer to the provided example of an energy policy, that can be adapted to suit the organisation
- State in the energy policy:
 - The purpose of the organisation's EnMS
 - Leadership commitments to support continual improvement and targets achievement, such as:
 - Energy targets
 - Legal & other requirements
 - Procurement targets, etc.
- Ensure the document is approved and displayed in lobby areas and the main entrance of the offices or work spaces



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Approved energy policy

5.2 Energy Policy Template (download from page 30)

الإصدار: 3
التاريخ: يناير 1، 2023

Version number: 3
Date: January 1, 2023

Energy Policy

سياسة إدارة الطاقة

Ahmed Corporation is committed to conducting its business and operations in an energy efficient manner, towards a lower environmental impact and carbon footprint, and to continuous improving its energy performance in line with its strategic objective of enhancing environmental sustainability.

سياتم شركة أحمد أيضاً بجمع المتطلبات القانونية والتنظيمية المعمول بها ذات الصلة بكفاءة الطاقة واستخدام الطاقة واستهلاك الطاقة.

Ahmed Corporation will comply with all applicable legal and organizational requirements related to energy efficiency, energy use and energy consumption.

سيضمن شركة أحمد:

Ahmed Corporation will:

- Set, manage, and review energy objectives and targets.
- Provide information and ensure resources are available to achieve those objectives and targets.
- Consider energy efficiency as part of the purchase criteria where practicable, in procurement of products, designs or services.
- Pursue energy conservation opportunities that provide a viable economic return on investment and in line with business objectives.
- Provide staff with the necessary awareness, education and training to implement the energy objectives and targets.
- Communicate the energy policy to all employees, business partners and the general public as required.
- Periodically review this policy as necessary.

وضع الأهداف والغايات المتعلقة بالطاقة والاستدامة لتحديد وإدارة ومراجعة نظم إدارة الطاقة.

توفير المعلومات والموارد لتحقيق الأهداف والغايات.

أخذ كفاءة الطاقة بعين الاعتبار عند شراء المنتجات أو الخدمات أو عمل التصميم الهندسية كأحد معايير الشراء حيثما أمكن.

السمي لتبني فرص توفير الطاقة ذات عائد اقتصادي مجدي والتي تتواءم في تحقيق أهداف الاستدامة.

تزويد الموظفين بالوعي والتعليم والتدريب اللازم لتنفيذ الأهداف المتعلقة بإدارة الطاقة.

إيصال سياسة الطاقة لجميع الموظفين وشركاء الأعمال والجمهور، إذا لزم.

مراجعة السياسة بشكل دوري، حسب الضرورة.

Fatima Abdullah
General Manager

فاطمة عبدالله
مديرة عام

Clear commitments

4.2 Legal & Other Requirements

ISO 50001 EnMS Requirements:

Identify all legal and other requirements related to energy management.

Evaluate the organisation's compliance to the requirements and list and track any actions needed for compliance.



Practical Actions and Tips

- List all external and internal legal and other requirements relevant to energy management
 - Discuss any requirements with those responsible for compliance, regulatory affairs or legal counsel at the organisation
 - Ensure that all such requirements are identified, tracked, and updated
- Assess how these requirements affect SEUs and targets (higher targets, constraints, etc.)
 - Understand the needs and expectations of the interested parties (e.g. regulatory bodies that set the requirements)
- Record any actions needed to comply with the requirements

Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Legal & other requirements tracker
- A copy of all identified legal requirements

4.2 Legal & Other Requirements Tracker Template (download from page 30)

Record and track external and internal legal and other requirements such as internal policies, compliance evaluations and associated actions

	Title of Requirement	Applicability (Yes/No)	Category	Date identified (dd/mm/yyyy)	What is affected by this requirement?	Compliant Yes/No?	Date compliance evaluation (dd/mm/yyyy)	Further action required (Yes/No)?	Plan details	Responsible Person	Deadline (dd/mm/yyyy)
1	Energy Policy - version 1.0	No	Legal	1/2/18	Establishes the initial energy policy of the entity	N/A	N/A	N/A	N/A	N/A	N/A
2	Barjeel (RAK Green Building Regulations) - version 1.0	Yes	Legal	1/2/18	Barjeel is a regulations for new buildings mandating minimum energy and water efficiency requirements.	Yes	6/6/23	No	N/A	N/A	N/A
3	Green Public Procurement - 1.0	Yes	Legal	1/2/21	The Green Public Procurement aims to create a new market for products and services related to energy efficiency and renewables, which would contribute to the economic growth of the Emirate as development of	No	6/6/23	Yes	Improve procurement of AC units to align with GPP	Procurement team	12/31/23

6.4 Energy Performance Indicators (EnPIs)

ISO 50001 EnMS Requirements:

Identify and track energy performance indicators (EnPIs) relevant to the EnMS.



Practical Actions and Tips

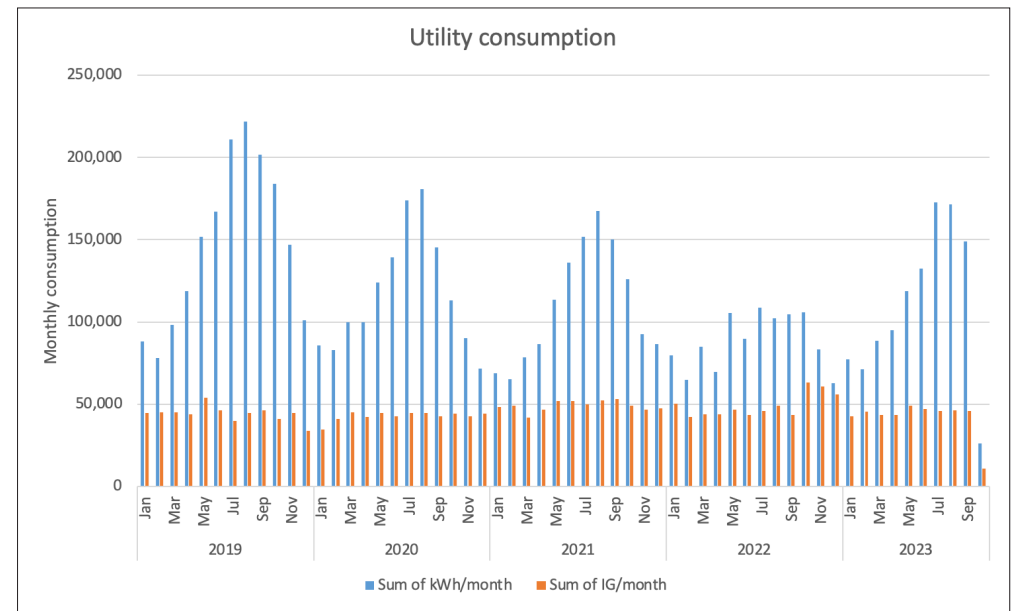
- Define the energy performance indicators (EnPIs) relevant to the EnMS, like:
 - Absolute electricity consumption (kWh)
 - Absolute water consumption (IG or m³)
 - Vehicle fuel efficiency (litres per km)
 - Production efficiency (kWh of heat per output unit), etc.
- Record any parameter that affects the EnPIs such as:
 - Cooling Degree Days (CDDs are a measure of the cooling needed over a given period, based on the severity of the heat during that year; refer to [degreedays.net](https://www.degreedays.net))
 - Number of employees
 - Working hours
 - Production, etc.
- Ensure that such parameters are independent of each other, e.g. production and working hours may be correlated



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- List of EnPIs

6.4 & 6.6 Energy Consumption Tracker Template (download from page 30)



6.5 Energy Baseline (EnB)

ISO 50001 EnMS Requirements:

Document the energy baseline (EnB) and the method of calculating EnPIs.



Practical Actions and Tips

- Select a baseline consumption and time period (preferably a year). The criteria to select a baseline year are:
 - Consumption should be stable, to avoid exceptional adjustments
 - Consumption data for the whole scope should be available for that year
- Create a methodology to compare the progress of the defined EnPIs in future years against the EnB:
 - For example, CDDs are a parameter that affects HVAC energy consumption in buildings. CDDs can adjust the baseline consumption in future years to allow comparisons. Following such adjustments, EnPIs can be calculated:

$$\text{Adjusted Baseline Consumption} = \frac{\text{Actual Baseline Consumption} \times \text{CDD in Current Year}}{\text{CDD Baseline Year}}$$

- Document the details of the EnB for the whole scope, and the method of making adjustments and calculating EnPIs



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Energy Baseline & Performance Indicators
- A document with the baseline calculations

6.5 Energy Baseline & Performance Indicators Template (download from page 30)

Energy Baseline and Performance Indicators

Data for each of the main Significant Energy Uses, i.e. electricity and water consumption plus fuel, will be collected from the utility and fuel bills. Data on the influencing parameters, e.g. weather and distance, will be collected from <https://www.degree-days.net> as Cooling Degree Days (CDDs) @ 18 degrees C and distance reported by each driver.

The data strategy considers the following:

- The finance admin officer will be responsible for receiving the utility and fuel bills.
- The energy principal will be responsible for collecting data on the influencing parameters with the support of the relevant members of the energy team.
- Weather and billing period as well as distance travelled are considered variables that affect the EnPIs performance.

The utility and fuel data as well as the values of the influencing parameters, e.g. weather and distance, must be updated each month on the trackers. Data verification must be done during the energy team review meetings to ensure that the values in the trackers are correct.

A regression analysis is adopted using the 2022 baseline year and adjusting each future year using its CDDs to compare the savings achieved between the annualised actual consumption and the estimated forecasted consumption as per the formula below:

$$\text{EnPI (\% Difference)} = \frac{\text{Ann. Actual Consumption} - \text{Ann. Adjusted Baseline Consumption}}{\text{Annualised Adjusted Baseline Consumption}}$$

EnB(s) shall be revised in the case of one or more of the following:

- EnPI(s) no longer reflect the organization's energy performance.
- There have been major changes to the static factors, e.g. building area or use, etc.
- Distance data will be revised at least during

6.2 Objectives & Targets

ISO 50001 EnMS Requirements:

Set yearly objectives for the identified EnPIs.

Define a measurement and verification method to analyse and monitor the progress.



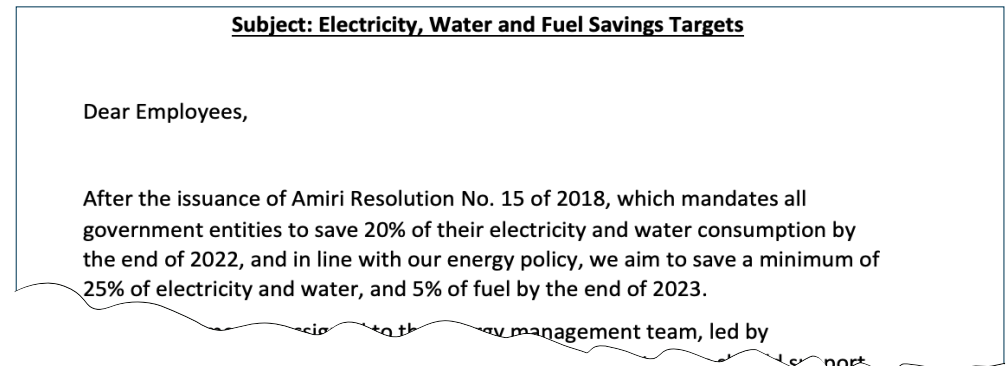
Practical Actions and Tips

- Set annual targets for EnPIs aligned with the organisation's strategic and operational targets for the year, and in discussion with senior management
- Set the targets by considering all the defined list of external or internal legal and other requirements relevant to energy usage
- Set SMART targets for example:
 - 20% electricity savings in 2 years compared to baseline year
 - 10% fuel savings per kilometre in 1 year compared to baseline year
- Define action plans to achieve the targets, including concrete actions, resources, responsibilities, timelines, etc.
- Refer to the **list of accredited Energy Service Companies (ESCOs)** and the **list of empaneled auditors for industrial energy audits** by Ras Al Khaimah Municipality in **reem.rak.ae** for companies that can help you to identify targets and implement energy conservation measures

Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Approved objectives and targets

6.2 Objectives & Targets Template (download from page 30)



Potential Savings based on the Organisation Type

For the targets of the first year, refer to the estimated savings in the table below.

Building type	Potential savings with basic saving measures	Potential savings with professional retrofit
Residential	10-15%	30-40%
Office	5-10%	30-40%
Other Commercial	10-15%	25-35%
Industrial	3-5%	20-60%

From the second year onwards, the yearly target should be revised based on the results of the first year and the adopted savings measures.

7.2 Competence

ISO 50001 EnMS Requirements:

Identify gaps in the current capabilities of the energy management team and other relevant employees.

Establish a training plan to enhance their capabilities.



Practical Actions and Tips

- Keep training records for all the team members, including in-person and remote training courses, seminars, workshops, etc.
- Create a tracker of energy management team competencies, recording previous experiences, skills, and certifications.
- Establish a training plan to enhance capabilities in the field of energy management:
 - Identify training courses, seminars or workshops to develop the team's capabilities and to address competency gaps
 - Identify all opportunities to build knowledge and skills to improve the team's competence and address gaps



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Competencies and trainings trackers

7.2 Competencies and Trainings Tracker Templates (download from page 30)

Recording the energy management team competencies, such as previous experiences and skills

Team Members Competence Record				
Name	Job title	Responsibility (Team leader / member)	Experience	Competency / skill
Abdulrahman Ali (AA)	Sustainable Project Manager	Team leader	Expertise in sustainable project management for 6 years	- Leadership - Project Management Skills - Environmental Knowledge - Risk management - Innovation
			in procurement,	- Procurement Expertise - Market Research - Environmental Assessment

Recording training programs and future plan (preferably for 3 or 5 years)

Role	Name	Certified Sustainability Practitioner (CSP)	Certified Sustainability Professional (CSP)	LEED (Leadership in Energy and Environmental Design) certification	Sustainability Reporting and ESG Training	Leadership and Change Management	Others (training/Seminar/Conference/Trade Show)	Notes
Team Leader	Abdulrahman Ali	6/1/20	12/1/21	3/1/22		2/1/24	27/09/2022 WETEX 4/10/2022 RAK Energy Summit 06/11/2022 COP27 in Egypt 01/06/2023 Internal energy awareness session 16/1/2023 World Future Energy Summit 1/12/2023 COP28 Dubai	The management encouraged the team to start attending local conferences starting from August 2022
	Bash		12/1/21			2/1/24	27/09/2022 WETEX 04/10/2022 RAK Energy Summit 06/11/2022 COP27 in Egypt 16/01/2023 World Future Energy Summit 01/06/2023 Internal energy awareness session 01/12/2023 COP28 Dubai	

7.3 Awareness

ISO 50001 EnMS Requirements:

Make all employees aware of the organisation’s energy management commitments.

Make all employees aware of how to contribute to achieving the targets.



Practical Actions and Tips

- Publicise the energy policy, energy management team nomination and energy targets to ensure maximum reach among employees
- Establish an awareness plan focusing on different official and unofficial communication channels such as emails, websites, social media, notice boards or others as appropriate
- Ensure that all employees are aware of energy conservation measures:
 - Hold workshops or meetings to guide employees around new equipment or procedures
 - Stickers of basic conservation measures, such as, “Put the thermostat at 24”, “Turn off the tap”, or “Switch off when not in use” are an effective way of raising awareness



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Awareness strategy
- Evidence of awareness actions

7.3 Awareness Plan Template (download from page 30)

Planned	
Complete	
Awareness platforms	Y/N
Emails	Yes
Magazine	No
Website	Yes
Social Media - LinkedIn	No
Social Media - Instagram	No
Social Media - Twitter	No

Choosing a list of social media channels

Spreading knowledge and awareness about the commitment of the management toward the EnMS as well as energy conservation measures

Topic	2023												Jan	Feb		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
Electricity Savings tips																
AC thermostat temperature																
Ventilation - Door																
Ventilation - Windows																
Printers + Paper savings																
Lights																
General Equipment																
Water and fuel savings tips																
Savings Targets																
Legal Requirements																
Green public procurement																
Energy Policy																
ISO 50001 EnMS																
Energy Questionnaire																

7.5 Documentation

ISO 50001 EnMS Requirements:

Establish a data repository to record all the documents of the EnMS.

Ensure regular review and proper record of the documents' changes.



Practical Actions and Tips

- Define an approach to archive all the EnMS documents as per the organisation's data policy. The archive should be accessible only to the energy management team, some possibilities are:
 - A trusted cloud file sharing that is used by the organisation
 - Local server backup
 - Physical archive of paper documents
- Ensure that all documents in the repository have identification, version control and other relevant information
- Ensure that all documents are well maintained through regular reviews



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Version control of all the documents

Version Control Template Included in All Documents (download from page 30)

Recording document details, such as version number and last review

ISO 50001 Energy Management	
Roles and Responsibilities of the Energy Team	
Responsible person	AA
Current Revision	6
Date of Last Review	6/23/23
Date of Next Review	15/12/2023

Recording the history of all changes made to the document

Revision Control					
Rev. No.	Amendments	Amended by	Date	Approved by	Date
1	Establish energy team	MM	1/1/21	AA	1/1/21
2	Establish roles & responsibilities	MM	2/1/21	AA	2/1/21
3	Review energy team members	MM	12/1/21	AA	12/1/21
4	Update roles & responsibilities	MM	10/1/22	AA	8/1/22
5	Review energy team members	MM	12/1/22	AA	12/1/22
6	Reviewed organizational chart	MM	6/23/23	AA	6/25/23
7					
8					
9					
10					

List of Documents & Evidences to be maintained in EnMS

ISO 50001: 2018 Clause-Topic	Link to Template	Documents
4.2 - Legal Tracker	Click here	A copy of all the legal requirements
4.3 - Scope of Energy Management System	Click here	A copy of the EnMS scope and boundaries document
5.2 - Energy Policy	Click here	The management approval of the energy policy Evidence of circulation of the energy policy, e.g. email to all employees, pictures of publicly displayed policy
5.3 - Energy Management Team	Click here Click here	Evidence of circulation of the energy management team nomination by the management Energy management team roles and responsibilities
6.1.1 - Energy Planning	Click here	Evidence of circulation of the energy planning document approved by management
6.1.2 - Risks & Opportunities (Action Plan)	Click here	The management approval of the risks and opportunities document, e.g. by signing the management review minutes of meeting
6.2 - Objectives & Targets	Click here	Evidence of circulation of the objectives and targets document approved by the management
6.3 - Energy Review	Click here	A copy of the energy review document
6.4 - Energy Performance Indicators (EnPIs) 6.6 - Energy Consumption Tracker	Click here	Actual data from utility bills, fuel, etc. and from factors affecting EnPI, e.g. CDDs, production, etc.
6.5 - Energy Baseline (EnB)	Click here	The management approval of the energy baseline and energy performance indicators document
7.2 - Competence Record	Click here	Evidence of relevant training attended by energy team, e.g. certificates
7.3 - Support - Awareness Plan	Click here	Evidence of awareness activities in action, e.g. energy saving messages, internal workshops, etc.
8.1 - Operational Control Records	Click here	Evidences of preventive and corrective maintenance actions performed
8.2 - Design Records	Click here	Evidence of energy evaluation in the design process of a new system or building
8.3 - Procurement Records	Click here	Evidence of energy performance specifications in procurement, e.g. extracts from the RFP, specification sheets, etc.
9.1 - Performance Evaluation - Action and Corrective Action Plans	Click here	A record of the evaluation of all actions performed and the corrective action plans if necessary
9.2 - Performance Evaluation - Internal Audit	Click here	A record of the results of the internal audit
9.3 - Performance Evaluation - Management review	Click here	A copy of the management review minutes of meeting
10.2 - Continuous Improvement	Click here	A manual summarising the EnMS and all kinds of enhancements implemented to it

Frequency of Meetings and Reviews, Level of Approvals needed for EnMS Documentation

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Management review meetings		✓					✓					
Energy team meeting		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal audit review meeting	✓											

ISO 50001:2018 Clause	Review & Update Frequency (if needed)	Meeting		
		Monthly Energy Team	Annual Energy Team	Management Review
4.2 - Legal Tracker	Annually	-	✓	-
4.3 - Scope of Energy Management System	Annually	-	✓	Approval if needed
5.2 - Energy Policy	Annually	-	✓	Approval if needed
5.3 - Energy Management Team	As required	-	✓	Approval if needed
6.1.1 - Energy Planning	Annually	-	✓	-
6.1.2 - Risks & Opportunities (Action Plan)	Monthly	✓	✓	Review and approval
6.2 - Objectives & Targets	Annually	-	✓	Review and approval
6.3 - Energy Review	Annually	-	✓	-
6.4 - Energy Performance Indicators (Utilities Tracker)	Monthly	✓	✓	-
6.5 - Energy Baseline (EnB)	Annually	-	✓	Approval if needed
7.2 - Competence Record	Semi-Annually	✓	✓	-
7.3 - Support - Awareness Plan	Monthly	✓	✓	-
8.1 - Operational Control Records	As required	-	✓	-
8.2 - Design Records	Annually	-	✓	-
8.3 - Procurement Records	As required	-	✓	-
9.1 - Performance Evaluation - Action and Corrective Action Plans	Annually	-	✓	Review and approval
9.2 - Performance Evaluation - Internal Audit	Annually	-	✓	Review and approval
10.2 - Continuous Improvement	Annually	-	✓	Approval if needed
Energy Management Manual	Annually	-	✓	-

8.1 Operational Planning & Control

ISO 50001 EnMS Requirements:

Identify critical energy consuming equipment.

Perform corrective and preventive maintenance actions as needed.



Practical Actions and Tips

- Identify significant energy consuming equipment (critical equipment), and identify the people responsible for maintaining such equipment
- Identify the maintenance needs of critical equipment and assign responsibilities for all corrective and preventive maintenance actions, if these responsibilities are not yet defined
- Record all maintenance actions performed (corrective, preventive) and replacements of critical equipment or parts
- Give responsibility to the energy management team to ensure timely maintenance of critical equipment



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Operational tracker
- Maintenance contracts, reports, evidences, etc.

8.1 Operational Planning & Control Tracker Template (download from page 30)

A list of all identified significant energy consuming equipment

Operational control list and check						
Critical assets list	Buildings	Operational control	Contract details	Period	Maintenance logs/report	Notes/comments
Chillers	Main building-mosque	External maintenance	Contract with ABC maintenance	Quarterly	Contract/Service Reports	-
Primary pumps	Main building-mosque	External maintenance	Contract with ABC maintenance	Bi-annually	Contract/Service Reports	-
Air Handling Units	Main building-mosque	External maintenance	Contract with ABC maintenance	Bi-annually	Contract/Service Reports	-
Lighting	Main building-mosque	External maintenance	Contract with ABC maintenance	Yearly	Contract/Service Reports	-
	Main building	External maintenance	Contract with XYZ elevators	Yearly	Contract/Service Reports	-
	Main building	Internal maintenance	N/A	Quarterly	Internal Reports	External contract cancelled in 2022
	Main building-mosque	External maintenance	Contract with ABC maintenance	Bi-annually	Contract/Service Reports	-
	Main building-mosque	Internal maintenance	Contract with ABC maintenance	Quarterly	Contract/Service Reports	-
	Main building-mosque	External maintenance	Contract with ABC maintenance	Bi-annually	Contract/Service Reports	-

8.2 Design

ISO 50001 EnMS Requirements:

Consider energy performance improvement opportunities and operational control in the design of new or renovation of existing energy-using facilities, equipment, or systems.



Practical Actions and Tips

- Identify the teams or employees responsible for approval of new designs or renovation of existing facilities, systems or processes (e.g. engineering team, FM team, etc.)
- Add a step in the procedure of new designs or renovation of existing facilities, systems or processes to evaluate and consider the energy impact of various design scenarios (if not already included). This may be added as a requirement or in the scope of external consultants
- Identify specific energy impact considerations for various new or renovated existing facilities, systems or processes.
- For example:
 - Building works should follow Barjeel Green Building Regulations
 - New appliances should follow MOIAT star rating
 - New purchases should be based on Green Public Procurement Guidelines



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Design documentations and plans

8.2 Design Tracker Template (download from page 30)

A list of types of new or renovated existing facilities, systems or processes with the details of energy evaluation

Records of energy efficient design								
Item	Design project name	Date (dd/mm/yyyy)	Category	List of energy considerations included in design:	Reference standards	Energy considerations done by:	Details	Supporting documents
1	Mosque renovation	6/1/23	Renovation	Efficient HVAC and water fixtures	Barjeel	Internal design team	HVAC with 4* and low flow water fixtures	Design notes and tender documents
2								

9.1 Performance Evaluation

ISO 50001 EnMS Requirements:

Evaluate performance of the EnMS towards energy targets and identified legal requirements.



Practical Actions and Tips

- Refer to energy targets and energy baseline (EnB) to assess the performance of the following:
 - Identified EnPIs
 - Effectiveness of action plans
- Evaluate compliance of the organisation towards identified legal requirements by referring to the requirements listed previously
- Develop a corrective action plan to fulfill any gap in achieving the targets or the legal requirements



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Legal requirements evaluation record
- Corrective action plan

9.1 Performance Evaluation & Corrective Action Plan Template (download from page 30)

A record of all the corrective actions identified from the review of the EnPIs evaluation, legal requirement compliance evaluation, etc.

Corrective action plan								
ID	Description	Date identified (dd/mm/yyyy)	How was it identified (Internal or external audit, others)?	Potential consequences	Corrective action description	Responsible person to implement action	Deadline for implementing corrective action (dd/mm/yyyy)	Date of actual completion (dd/mm/yyyy)
1	Potential failure to meet energy KPI targets	6/1/23	Energy team	Miss energy KPI targets	Establish monthly reporting and monitoring	AA	10/1/23	N/A
2	Lack of collaboration of employees with implementation of EnMS	6/1/23	Energy team	Fail EnMS awareness intent and miss energy KPI targets	Adapt awareness content and increase frequency of sessions	BB	10/1/23	8/1/23
3	Lack of accuracy of electricity and water meter readings	9/1/23	Internal audit	Uncertainty on EnMS data	Calibrate meters as per manufacturer recommendations	CC	10/1/23	10/1/23
4	Explore training opportunities to upskill current energy and maintenance teams	9/1/23	Internal audit	Lack of knowledge and expertise to deliver tasks	Team to undergo selected training and HR section and top management to support	BB	10/1/23	
5	Failure to consider energy performance in new projects that feature high energy consumption equipment	10/1/23	Energy team	Miss the EnMS design intent.	Discuss with design teams the need to consider energy management in new designs	AA	11/1/23	
6								
7								
8								

9.2 Internal Audit

ISO 50001 EnMS Requirements:

Establish a process to perform an internal audit to ensure that all documentation is compliant with the ISO 50001 standard.



Practical Actions and Tips

- Define an internal process to perform the internal audits on a yearly basis as a minimum. The audit should be performed by a certified ISO 50001 internal energy auditor or a certified independent party, who should not be a member of the energy management team
- Record identified non-conformities in the internal audit report. The auditor should identify the status of the compliance of each clause and share them with the energy management team
- Define actions to mitigate identified non-conformities and make an action plan to correct them



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Internal audit report
- Corrective action plan

9.2 Internal Audit Report Template (download from page 30)

Record of all the corrective actions identified from the internal audit

EnMS Internal Audit Report				
Date:	9/1/2023			
Entity Name:	Ahmed Corporation			
Energy Principals:	Abdulrahman Ali			
Team Members:	Bashayer Bader, Maryam Mohammed, Khalid Khalil, Essa Ebrahim			
Auditors:	Sarah Salim (Certified Internal Auditor)			
Scope & Boundary:	Ahmed corporation building and mosque			
Legend:	CON	Compliance with requirement.		116
	OBS	Observation (Opportunity for Improvement)		3
	MIN	Minor noncompliance (administrative in nature)		2
	MAJ	Major noncompliance (Absence or total breakdown of the EnMS system)		0
#	Clause	ISO 50001 Requirement	Compliance	Objective Evidence / Comments
4.3	Scope of the Energy Management System	Is the boundary defined? (electricity and water consumption for which buildings)	CON	
		Is fuel also an energy source considered? (e.g. company cars, etc.)	OBS	Ensure all corporate fleet vehicles are considered
		Confirm the entity has full control over the boundary (pays respective bills)	CON	
		Record the boundary and energy sources in a document	CON	
5.2	Energy Policy	Is an energy policy defined and approved by the management?	CON	
		Has a communication been sent to all staff to disseminate the energy policy?	CON	
		Is the policy available in a framed copy at the main entrances of each building and other relevant locations?	CON	
		Record all evidences of energy policy approval, dissemination and other relevant information	CON	

9.3 Management Review

ISO 50001 EnMS Requirements:

Regular review the EnMS performance by the top management.



Practical Actions and Tips

- Circulate EnMS performance data in advance of the meeting including achievement of objectives and targets based on EnPI monitoring and measurement and status of the action plans
- Review during the meeting:
 - Pending actions from previous management reviews
 - Changes in issues, risks, and opportunities
 - Information on the EnMS performance, e.g. nonconformities, corrective actions, EnPI evolution, internal audit results, compliance with legal and other requirements
 - Opportunities for continual improvement
 - Energy policy
- Document the meeting outcomes on:
 - Continual improvement of the energy performance, energy policy, EnPI(s), EnB(s), objectives, energy targets, action plans and all other elements of the EnMS
 - Allocation of resources, staff competence, awareness and communication



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Minutes of Meeting of management review

9.3 Management Review Template (download from page 30)

Minutes of meeting of the management review with agenda, discussion and agreed actions

2023 Yearly Management Review Meeting – ISO 50001 Energy management systems			
DATE	01 October 2023	MEETING PLACE	Main meeting room
ATTENDEES			
NAME	DESIGNATION	ROLE IN THE TEAM	SIGNATURE
Fatima Abdullah	General Manger	-	<i>Fatima Abdullah</i>
Abdulrahman Ali	Project manager	Team leader	AA
Bashayer Bader	Procurement officer	Team member	BB
Maryam Mohammed	Recruitment specialist	Team member	MM
Khalid Khalil	Social media coordinator	Team member	KK
Essa Ebrahim	Accounting specialist	Team member	EE
AGENDA TOPICS			
ITEM	TOPIC		
1	The status of actions from previous management reviews (if any)		
2	Changes in external and internal issues and associated risks and opportunities that are relevant to the EnMS		
3	EnMS performance		
4	Opportunities for continual improvement, including those for competence;		
5	Energy policy		
6	Energy performance		
	Performance of the energy team members		

10.2 Continuous Improvement

ISO 50001 EnMS Requirements:

Continuously improve the EnMS in terms of suitability, adequacy and effectiveness.



Practical Actions and Tips

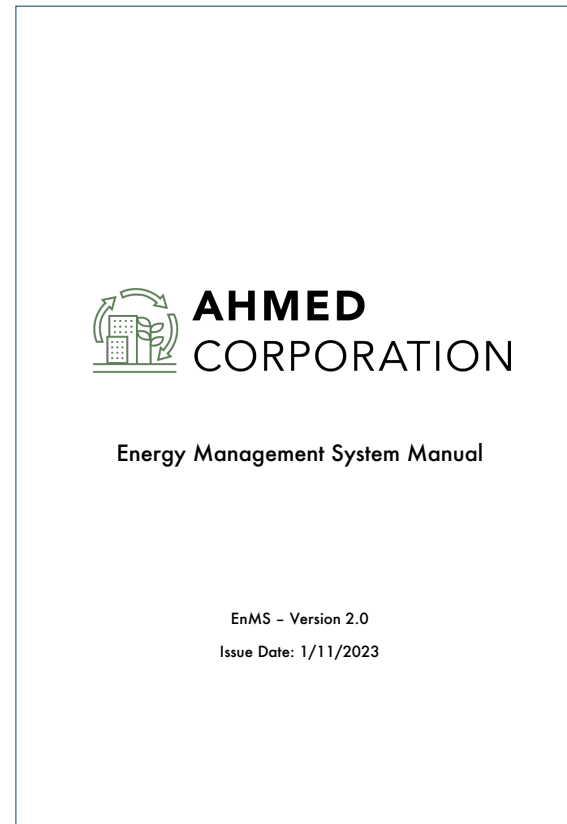
- Look closely for continuous improvements, including enhancements in:
 - Quality and completeness of energy data, documentation and evidence
 - Energy performance, especially for the identified SEUs, by acting on energy savings opportunities and by mitigating risks
 - Competencies of Energy Management Team Members
 - Awareness and contributions of all the employees
- Establish an Energy Management System Manual which defines the complete EnMS framework for the organisation, covering all requirements of ISO 50001



Outputs/Documentation expected as per the ISO 50001 EnMS Standard:

- Energy management system manual document

10.2 Energy Management System Manual Template (download from page 30)



Glossary of Terms

EnBs	Energy Baselines
EnMS	Energy Management System
EnPIs	Energy Performance Indicators
FM	Facility Management
HR	Human Resources
HVAC	Heating, Ventilation & Air Conditioning
IT	Information Technology
ISO	International Organisation for Standardisation
RFP	Request For Proposal
MOIAT	UAE Ministry of Industry and Advanced Technology
SEUs	Significant Energy Users

Ahmed Corporation's Energy Management System



Take a look at Ahmed Corporation's EnMS

Ahmed Corporation is a fictitious company doing commercial R&D projects to study and test new technologies. The EnMS shows how the company manages its energy (electricity, water and fuel) in its buildings and vehicle fleet.

Download Ahmed Corporation's filled templates for a complete EnMS sample



The organisation, all names, characters, and incidents mentioned in this EnMS sample are fictitious. No identification with actual persons (living or deceased), places, buildings, and products is intended or should be inferred.

**If you are based in Ras Al Khaimah,
reach out to the Reem Office in Ras
Al Khaimah Municipality for further
guidance and support!**

info.eer@mun.rak.ae