Environmental Management System:
Energy Monitoring and Management Procedure

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May 2021
Approval Page

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<tr>
<th>Version</th>
<th>Governance Group</th>
<th>Date Approved</th>
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<tr>
<td>1.0</td>
<td>Sustainability Committee</td>
<td>7 May 2021</td>
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</table>
Energy Monitoring and Management Procedure

Lead: Head of Sustainability
Reviewed by: Head of Sustainability
Approved by: Sustainability Committee
Date Approved: 7 May 2021
Date due for Review: 6 May 2022
ISO 14001:2015 Clause: 8.1

Purpose
This procedure details how Queen Mary, University of London (Queen Mary) manages energy used across its UK campuses as well as:

- Address the risks and opportunities associated with aspect ‘energy consumption’
- Monitor energy consumption
- Minimise energy consumption
- Embed good energy management practices across all its premises
- Ensure compliance with relevant environmental legislation.

Scope
This procedure covers all gas, electricity, gas and all fossil fuel used for heating across the premises of Queen Mary, University of London (Queen Mary).

Definitions (ISO14001:2015)
Risks and Opportunities: potential adverse effects (threats) and potential beneficial effects (opportunities).

Process: Set of interrelated or interactive activities, which transforms inputs into outputs.

Responsibilities

<table>
<thead>
<tr>
<th>Role / Position</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Sustainability Committee</td>
<td>Responsible for ensuring that there are adequate resources to support the delivery of Queen Mary’s carbon reduction and decarbonisation targets and objectives. Provide oversight of Queen Mary’s energy efficiency and carbon reduction performance</td>
</tr>
<tr>
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<td>Responsibilities</td>
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<tr>
<td>Estates and Facilities Senior Management Team</td>
<td>Align Queen Mary’s carbon reduction and energy efficiency objectives into all service areas across the Estates and Facilities Directorate.</td>
</tr>
<tr>
<td>Head of Sustainability</td>
<td>Overall responsibility for overseeing energy management across Queen Mary and ensuring compliance with all relevant energy regulations. Responsible for developing Queen Mary’s carbon management plan.</td>
</tr>
<tr>
<td>Sustainability and Energy Manager</td>
<td>Responsible for monitoring energy / carbon performance and collating data to generate DECs and HESA reports. Responsible for collating technical energy efficiency opportunities and risks across Queen Mary’s portfolio.</td>
</tr>
<tr>
<td>Sustainability and Environment Manager</td>
<td>Responsible for coordinating Queen Mary’s environmental and auditing programme as well as exploring non-technical approaches to reducing energy wastage.</td>
</tr>
<tr>
<td>Relevant Managers and Departments</td>
<td>Proactively encourage good energy practices across their Departments, Schools, Faculties and Service Areas.</td>
</tr>
<tr>
<td>Building Management System Contractor</td>
<td>Deliver energy efficiency via optimisation of Building Management System (BMS)</td>
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**Related Documents**

This procedure is linked to:

- Queen Mary’s Environmental Sustainability Policy 2020
- Queen Mary’s Environmental Sustainability Action Plan (2020-23)
- Queen Mary’s Environmental Management System (EMS)
- Queen Mary’s Environmental Aspects and Impact Register

**Procedure**

**Building Management System**

1. Queen Mary’s appointed BMS Contractor is responsible for controlling heating, ventilation air-conditioning systems (HVAC) and hot water controls via building management system.
2. The HVAC of most of Queen Mary’s buildings can be controlled via the BMS; however, some of our buildings have complex control systems.
3. Majority of Queen Mary’s buildings have manual controls, within individual rooms for air-conditioning, heating and lighting.
4. Some of Queen Mary’s buildings are regulated automatically via the BMS, which controls the internal air temperature of either zones or individual rooms within the building according to seasonality, term times, temperature and occupancy.

**Higher Education Statistics Agency (HESA) submissions:**

1. The Head of Sustainability collates the annual electricity, fossil fuel (heating), water used, and business travel data across all Queen Mary’s UK campuses. These data are part of Queen Mary’s annual Estate Management Record (EMR) submissions.
2. These data are submitted to the Assistant Director Property and Space Management (Estates and Facilities) who is Queen Mary’s primary contact for the HESA reporting.
3. The Head of Sustainability stores all email correspondence and HESA’s reporting requirements in designated sub-folder. These evidences are available for assurance and audit purposes.

**Energy Performance of Buildings (England and Wales):**

1. The Head of Sustainability is responsible for ensuring that all qualifying Queen Mary’s buildings display valid Display Energy Certificates (DECs) and have the associated advisory reports.
2. The DECs and Advisory Reports are prepared by registered consultant, who conducts the annual review of each building during the process of generating these DECs.
3. The DECs are displayed at the entrance/reception area of each building, and are publicly available via relevant section of Queen Mary’s Sustainability web site.
4. Energy Performance Certificates (EPCs) of all recently acquired buildings are available via relevant section of Queen Mary’s web site.
5. TM44 Air conditioning inspections are carried out, by an accredited air-conditioning inspector, in accordance with the Energy Performance of Buildings Regulations. These certificates held by the Assistant Director Operations (Estates and Facilities Directorate).

**Monitoring and reporting:**

1. Majority of Queen Mary’s buildings have smart electric meters for accurately monitoring electricity, gas and water consumption.
2. The Head of Sustainability validates energy bills against fiscal meter data to ensure accuracy.
3. The Head of Sustainability present energy and carbon performance to the Sustainability Committee (SC) and the Finance and Investment Committee (FIC).
4. Scope 1 and 2 data are captured within Queen Mary’s energy monitoring and management workbooks.

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Carbon Management and Energy Efficiency Opportunities

1. Six-year 30% carbon reduction target against Queen Mary’s 2018/19 baseline is one of the commitment with its Environmental Sustainability Action Plan (ESAP) 2020-23.

2. The Head of Sustainability in conjunction with all relevant stakeholders is responsible for identifying energy efficiency and carbon reduction opportunities and carrying out cost/benefit analysis to determine the feasibility of all identified energy efficiency and carbon reduction opportunities.

3. Queen Mary is currently exploring opportunities to encourage all building users to adopt good energy efficiency opportunities.

4. The Head of Sustainability present regularly reports to the Sustainability Community and the Finance and Investment Committee on Queen Mary’s against its carbon reduction target.

Effects and Actions on Non-Conformance

Failure to comply with this procedure may result in:

- Non-conformance with the requirements the ISO 14001:2015 standard
- Budgetary pressure from increased energy consumption / wastage
- Civil and / or criminal prosecution

Departure from this procedure is addressed within Non-Conformance, Corrective and Preventive Action Section of Queen Mary’s Environmental Management System.

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