

SIEMENS

SIEMENS MOBILITY UK&I

ESOS Phase 3

Action Plan Extract

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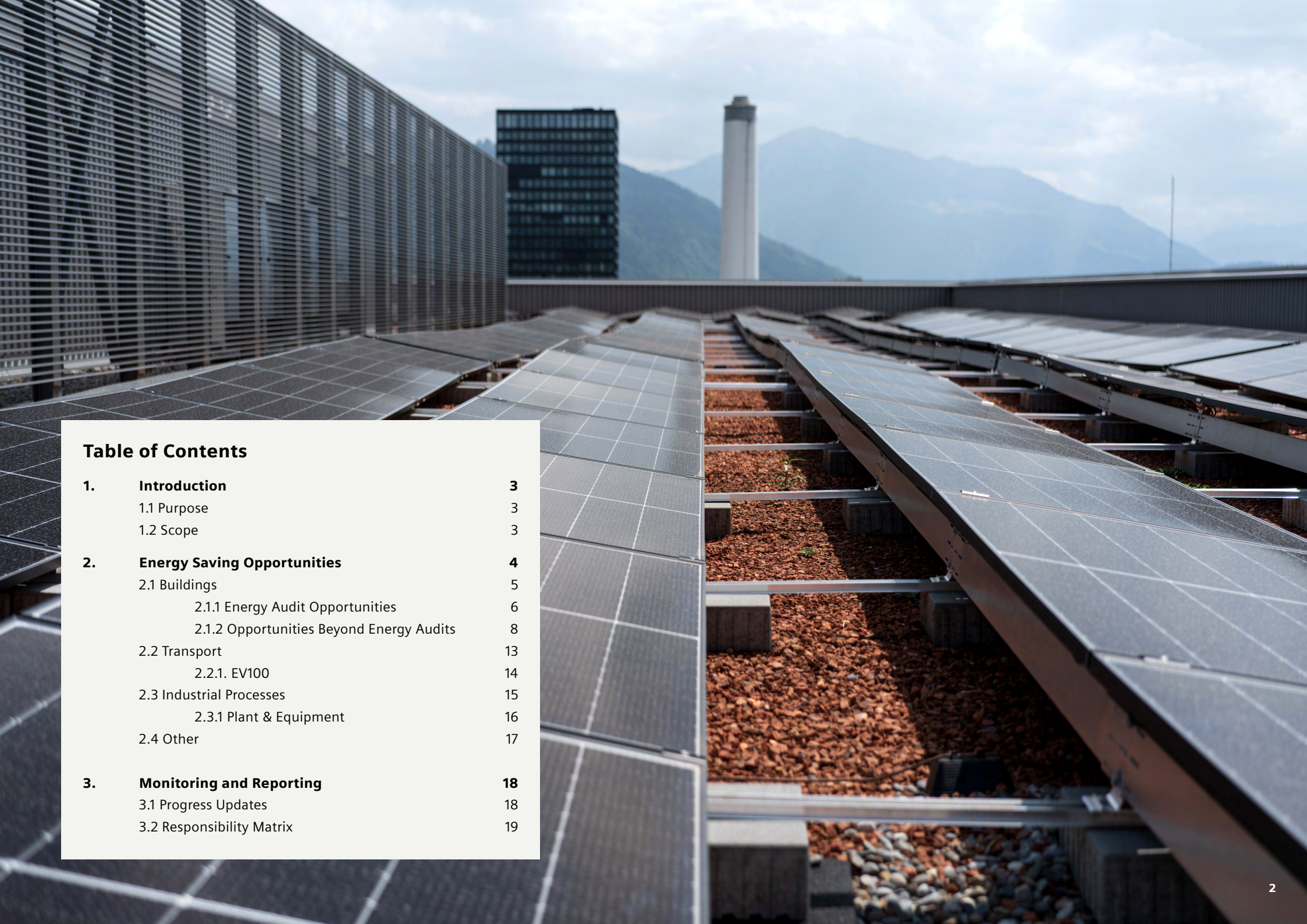


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1. Introduction

This ESOS Phase 3 Action Plan Extract outlines Siemens Mobility Limited's plan to enhance energy efficiency across our organisation. The Plan focuses on actions aimed at reducing energy consumption and carbon emissions, supporting our sustainability goals.

1.1 Purpose

The "Energy Savings Opportunity Scheme (Amendment) Regulations 2023" mandates the creation of an ESOS action plan, requiring qualifying organisations to implement energy saving measures outlined in their action plan.

This Action Plan Extract identifies opportunities across the entire Siemens Mobility Limited (Siemens Mobility) organisation to reduce energy consumption and related emissions. It also establishes a monitoring process to track progress toward achieving energy savings.

1.2 Scope

Siemens Mobility's submissions of ESOS Phase 1, 2 and 3 compliance notifications, to the Environment Agency, were aggregated with Siemens Holdings Public Limited Company (Siemens Plc).

This Action Plan Extract highlights energy saving opportunities specific to Siemens Mobility Limited, derived from the joint Phase 3 Action Plan submitted to the Environment Agency.

This report identifies energy saving opportunities through an evaluation of Siemens Mobility's entire estate and operations, including fleet vehicles.



Rob Morris
Joint CEO

Marko Feulner
CFO and Chair of the Board

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Joint CEO

2. Energy Saving Opportunities

The energy saving opportunities outlined within this document were identified through both the ESOS Phase 3 Energy Audits and additional research. The Siemens Mobility Environment Team facilitated the consolidation of further energy saving opportunities to ensure that the ESOS Action Plan considered the entire Siemens Mobility estate and operations, including fleet vehicles, rather than being limited to the sample selected for the ESOS Phase 3 audits.

To support this effort, the Environment Team coordinated meetings with key stakeholders across the business, including Siemens Real Estate (SRE), Siemens Facilities teams, and Business Unit (BU) EHS teams. These discussions sought to identify energy saving initiatives already implemented from 6th December 2023 in addition to any planned future actions within the ESOS reporting period.

Action owners identified during these meetings were contacted to provide relevant data, enabling the calculation of estimated energy savings for each initiative over the ESOS period (6th December 2023 – 5th December 2027).

ENERGY AUDIT OPPORTUNITIES

2.1 Buildings

Total Energy Savings Expected (kWh) from
Buildings Energy Saving Opportunities:

5,850,251.55

2.1.1

Energy Audit Opportunities

The opportunities listed below were identified during the ESOS Phase 3 Energy Audits and therefore only cover a sample of our locations. The energy saving calculations for the opportunities below were calculated by an external ESOS energy assessor during the Phase 3 audits. The estimated energy savings for each initiative are calculated for the ESOS period (6th December 2023 – 5th December 2027).

The identified opportunities have been reviewed and approved by SRE, facilities management, or EHS, with sign-off from location managers where required. These opportunities are scheduled for completion by the designated 'implementation date'.

Any opportunities identified during the energy audits that are not listed below were deemed to be economically and/or technically impracticable.



2.1.1.1 Building Upgrades

Lighting

Several locations have been identified with non-LED lighting on-site and have scheduled replacements with LED alternatives to reduce both energy usage and costs.

The transition to LED lighting at our Ardwick Train Maintenance Depot has been quantified and is reported below. While it was not possible to quantify the transition across the other Phase 3 audit locations, all are prioritising the shift to LED lighting.

Related Schemes:

SECR**CRP**

14 MWh

Total Energy Savings Expected (kWh) from Building Upgrades
14,041.5

Location	Ardwick Offices
Implementation Date	November 2024
Total Energy Savings expected (kWh)	14,041.5

Calculation Methodology

Assumed operating for 12 hours per day.

Before upgrade: 28.8 kWh per day

After upgrade: 10.8 kWh per day

Daily energy saving: 18 kWh. Annual saving*: 4,554 kWh.

*Assuming 253 days of use (office location therefore weekends & bank holidays not included)

$(4,554/12) * 37 = 14,041.5$ kWh projected saving over ESOS period.

2.1.2 Opportunities Beyond Energy Audits

The opportunities listed below were identified outside of the ESOS Phase 3 energy audits. The entire Siemens Mobility estate was considered when identifying these opportunities. The estimated energy savings for each initiative are calculated for the ESOS period (6th December 2023 – 5th December 2027).

The identified opportunities have been reviewed and approved by SRE, facilities management, or EHS, with sign-off from location managers where required. These opportunities are scheduled for completion by the designated 'implementation date'.



2.1.2.1 Closure of Locations

These locations have been marked for closure by the SRE team, with no replacement sites planned.

These decisions align with the team’s objective to close or relocate sites with suboptimal EPC ratings in line with the Siemens Green Leasing Guidelines.

In cases where accurate energy usage data was unavailable, the kWh/m² value from the building’s EPC was used to estimate the energy savings.

Related Schemes:



Location	Edinburgh Princes Street
Implementation Date	March 2024
Total Energy Savings expected (kWh)	5,635
Calculation Methodology = ((kWh per m2* total m2)/12 months) *46 months Total floor space = 15m2, EPC Rating= C-34, kWh/m2/pa =98	

Location	Bodmin
Implementation Date	July 2024
Total Energy Savings expected (kWh)	262,004.25
Calculation Methodology = (FY24 kWh Usage/ 12months) *29 months FY24 kWh = 108415.55 Total floor space = 1593m2, EPC Rating= E -105, kWh/m2/pa =523	

Location	Chessington
Implementation Date	December 2024
Total Energy Savings expected (kWh)	43,806
Calculation Methodology = (FY24 Total kWh Usage/12) *36 FY24 kWh = 14602, Total floor space = 640.94m2, EPC Rating = E -105, kWh/m2/pa = 164	

Location	Manchester Eccles
Implementation Date	August 2025
Total Energy Savings expected (kWh)	405,703.7
Calculation Methodology 127,669kWh electricity usage + 46,204 kWh gas usage = 173,873kWh usage during FY24 = (FY24 kWh Usage/ 12months) *28 months FY24 usage used for estimation as kWh/m2/pa not available. Total floor space = 1846.03, EPC Rating = C-67	

717 MWh

Total Energy Savings
Expected (kWh) from closure
of locations 717,148.95

2.1.2.2 Relocation

These locations have been identified for relocation by the SRE team.

This aligns with the Siemens global sustainability strategy and supports the team's local objective of closing or relocating sites with suboptimal EPC rating.

Related Schemes:



Location	Atlantic Square Glasgow Office
Implementation Date	April 2024
Total Energy Savings expected (kWh)	495,025.13

Calculation Methodology

FY24 Energy Usage, new building = 179,738.3kWh

FY23 Energy Usage, old building = 224,584kWh electricity + 87,161kWh gas = 311,745 kWh

FY23 Usage – FY24 Usage = 132,006.7/pa

(132,006.7/12)*45 months = 495,025.125 kWh over the ESOS period.

Old Location: Total floor space = 1791m², EPC Rating = C-40

New Location: Total floor space = 1376.3m², EPC Rating = A-15

Location	Chippenham Manufacturing Facility
Implementation Date	December 2026
Total Energy Savings expected (kWh)	1,869,254.05

Calculation Methodology

kWh/m² of Google manufacturing facility used as an estimate due to same EPC rating and similar activities.

FY24 Chippenham Energy Usage = 2,695,511.97 electricity + 1063742.08 gas = 3,759,254.05 kWh/pa

Google kWh/m² * proposed m² = 1,890,000 New kWh/pa

= Current kWh/pa - New kWh/pa = 1,869,254.05

Old Location: Total floor space = 24,189 m², EPCs range between E-107 and B-34

New Location: Total proposed floor space = 21,000 m², Proposed EPC A-22, kWh/m² = 90.

2,364 MWh

Total Energy Savings
Expected (kWh) from
Relocation 2,364,279.18

2.1.2.3 Building Upgrades

These building upgrades were identified by the SRE and Facilities teams during site reviews aimed at assessing potential improvements and energy efficiency measures. Some locations have reported the presence of non-LED lighting on-site and have scheduled replacements with LED alternatives to reduce both operational and maintenance costs. While these considerations apply across our entire estate, specific site examples have been included where data is available to estimate energy savings. Once actual energy savings are recorded, the reported savings from all locations that have completed LED upgrades will be reported in the annual progress report.

Related Schemes:

CRP

SECR

Location	Derby
Implementation Date	April 2024
Total Energy Savings expected (kWh)	75,870.12

Calculation Methodology

Assumed operating for 12 hours per day. Before upgrade: 96.48 kWh per day. After upgrade: 39.79 kWh per day Daily energy saving: 56.69 kWh. Annual saving*: 20,691.85 kWh. *Assuming 365 days of use (20,691.85/12)*44 = 75,870.12 kWh projected saving over ESOS period

Location	Three Bridges
Implementation Date	June 2025
Total Energy Savings expected (kWh)	55,188

Calculation Methodology

Assumed operating for 12 hours per day. Before upgrade: 120.96 kWh per day After upgrade: 60.48 kWh per day Daily energy saving: 60.48 kWh. Annual saving*: 22,075.2 kWh. *Assuming 365 days of use (22,075.2/12)*30 = 55,188 kWh projected saving over ESOS period. EPC Rating= E -105, kWh/m2/pa =523

Location	Hornsey
Implementation Date	December 2024
Total Energy Savings expected (kWh)	50,772.96

Calculation Methodology

Assumed operating for 12 hours per day. Before upgrade: 92.736 kWh per day After upgrade: 46.368 kWh per day Daily energy saving: 46.368 kWh. Annual saving*: 16,924.32 kWh. *Assuming 365 days of use (16,924.32/12)*36 = 50,772.96 kWh projected saving over ESOS period

181 MWh

Total Energy Savings Expected (kWh) from Building Upgrades
181,831.08

2.1.2.4 Renewable Energy

We have installed solar photovoltaic (PV) panels as part of our commitment to reducing the impact of energy usage. By harnessing solar energy, these PV panels will generate clean, renewable power, thereby reducing reliance on grid electricity. This transition to solar energy not only supports our sustainability goals but also lowers energy consumption and costs, contributing to a more efficient operation.

Related Schemes:

**SECR****CRP**

Location	Biggleswade
Implementation Date	December 2024
Total Energy Savings expected (kWh)	101,227.5

Calculation Methodology

Total array = 41.25kW

Irradiance = 818

Total projected kWh pa = $41.25 * 818 = 33,742.5$ kWh pa

$(33,742.5/12) * 36$ months = 101,227.5 kWh over the ESOS period.

Assumptions: 0 shade factor to consider. Methodology from MCS The Solar PV Standard.

Location	Goole
Implementation Date	November 2024
Total Energy Savings expected (kWh)	2,471,723.34

Calculation Methodology

Total solar array = 980kW

Irradiance = 818 kWh/kWp

Total projected kWh pa = $980 * 818 = 801,640$ kWh

$(801,640/12) * 37 = 2,471,723.34$ kWh over the ESOS period.

Assumptions: Irradiance is the same as Biggleswade. 0 shade factor to consider. Methodology from MCS The Solar PV Standard.



2,572 MWh

Total Energy Savings
Expected (kWh) from
Relocation 2,572,950.84

ENERGY AUDIT OPPORTUNITIES

2.2 Transport

Total Energy Savings Expected (kWh) from
Transport Opportunities:

4,529,836

2.2.1 EV100

We are working to reduce our emissions from our motor vehicle fleet, which comprises about 1130 vehicles, and we are striving to electrify it completely by 2030 in line with the Siemens commitment to the Climate Action EV100 initiative.

In 2022 we introduced our EV First Policy, requiring all new orders for company cars to be 100% electric unless a valid exception could be provided. Since the introduction of this policy there has been significant uptake in electric vehicles, and a move towards plug-in hybrid vehicles where 100% electric is not suitable.

At the end of FY24, 63% of our company car fleet was fully electric.



4,529 MWh

**Total Energy Savings Expected
(kWh) from Transport Opportunities
4,529,836**

Siemens Mobility Electric Fleet Transition

Implementation Date	September 2030
Total Energy Savings expected (kWh)	4,529,836

Total energy savings expected are for the ESOS period 6th December 2023 to 5th December 2027 and do not include any savings realised before the ESOS period or expected after the ESOS period.

Calculation Methodology

Total fleet kWh at start of ESOS period: 9,471,169

Total projected fleet kWh at end of ESOS period: 4,941,333

(kWh at start – kWh at end) = 9,471,169 – 4,941,333 = 4,529,836 kWh projected savings over ESOS period.

Projected fleet composition provided by fleet leasing partner, LEX Autolease. Transport kWh calculated using average mileage per vehicle type (based on FY24 mileage data) and DEFRA 2024 conversion factors “SECR kWh pass and delivery vehs” and “SECR kWh UK electricity for EVs”

A photograph of two high-speed trains, numbered 380 015 and 380 011, parked on tracks inside a large industrial maintenance hall. The hall has a high ceiling with exposed pipes and multiple rows of industrial lights. Yellow safety railings are visible on the left and right sides of the tracks.

ENERGY AUDIT OPPORTUNITIES

2.3 Industrial Processes

Total Energy Savings Expected (kWh) from
Industrial Processes Opportunities:

112,955.06



112 MWh

**Total Energy Savings Expected
(kWh) from Industrial Processes
Opportunities: 112,955.06**

2.3.1 Plant & Equipment

The opportunities listed below were not identified through the ESOS Phase 3 energy audits. The opportunities were identified by SRE and Facilities teams during site reviews aimed at assessing potential improvements and energy efficiency measures.

During the procurement process for a replacement air compressor, the facilities team at Ardwick depot identified the opportunity to install a more energy-efficient model. This decision is expected to deliver annual energy and financial savings.

Related Schemes:

SECR

CRP

location	Ardwick
Implementation Date	October 2024
Cost	£5,500
Payback Period	0.6 years
Total Energy Savings expected (kWh)	112,955.06

Calculation Methodology

Yearly saving = 9,238.40. Cost of compressor = £5,500. Payback period = 0.6.

Old compressor = £31,616 per 121600 kWh/pa.

New compressor cost = £22377.6

121600 kWh / £31,616 = 3.84 kWh per £. £22377.6 * 3.84 = 85,929.984 kWh per annum. 121,600 - 85,929.984 = 35,670.02 saving per annum. (35,670.02 / 12) * 38 = 112,955.06 kWh saving over ESOS period. ^Data based on information provided by the supplier

2.4 Other

The opportunities outlined above were identified through both the ESOS Phase 3 energy audits and site reviews conducted by the SRE and Facilities teams to assess potential improvements and energy efficiency measures.

Additional opportunities that could not be quantified are included below to demonstrate our commitment to energy reduction.

Our locations will aim to:

- increase training and awareness of energy management through various communication channels, including toolbox talks, energy briefs, and updates to site induction materials.
- establish baseline energy usage across site activities to identify key energy hotspots and enable effective progress monitoring.

Additionally, our Ardwick and York depots have committed to conducting thermal imaging surveys to detect heat loss from hot water pipes and valves. Any identified areas will then be addressed with additional insulation to improve energy efficiency.

These initiatives reflect our ongoing commitment to improving energy efficiency across our locations. By focusing on awareness, monitoring, and targeted improvements, we aim to drive meaningful progress in reducing energy consumption and supporting our sustainability goals.



3. Monitoring and Reporting

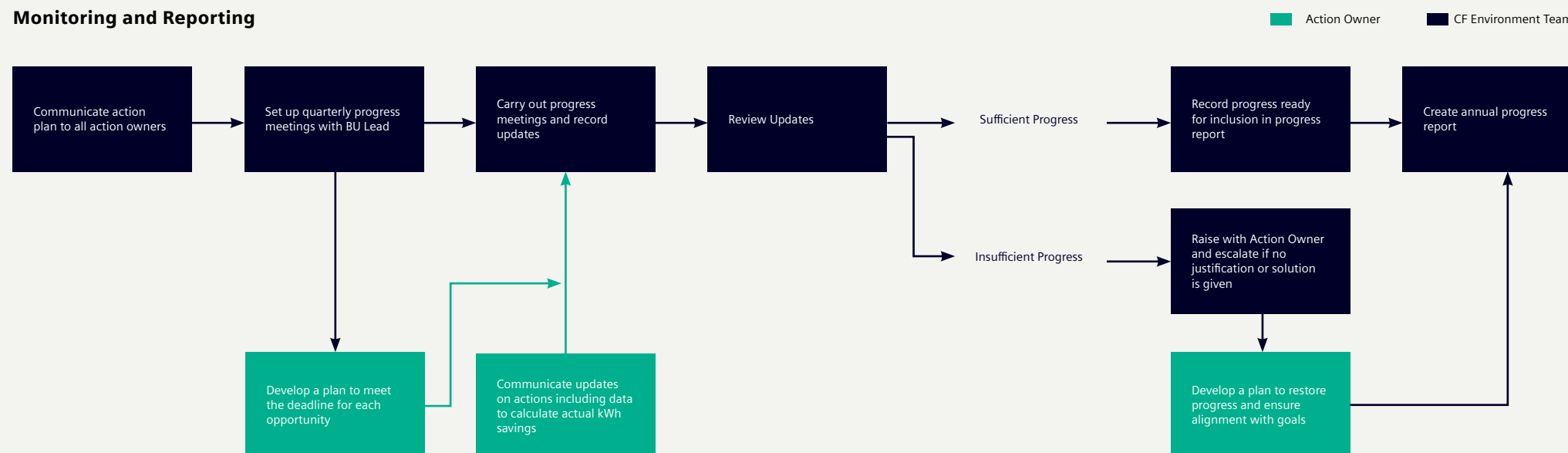
We are committed to ensuring the effective implementation of our ESOS Action Plan Extract. To track progress we will monitor implementation, assess outcomes, and provide transparent updates via the annual Progress Report. This approach will help identify areas for improvement, ensure compliance, and drive continuous energy efficiency across our operations.

3.1 Progress Updates

This report outlines the opportunities that have either already been completed during the ESOS period or are planned for completion and can be quantified.

Additionally, several initiatives are still in the early stages of development and the projected savings cannot yet be accurately calculated. These initiatives will be included in our Annual ESOS Progress Report once implementation dates are confirmed, allowing for a more accurate estimation of projected savings.

Monitoring and Reporting



3.2 Responsibility Matrix

The departmental responsibilities matrix, for implementation of identified measures is given in the table below.

Location	Description	Responsible	Accountable	Consulted/ Support
Communication of Action Plan	Communicate clear, measurable energy saving goals	Central Functions (CF) Environment Team	Siemens Mobility Senior Leadership	BU EHS, Facilities Management, SRE, Operational Teams
Progress Actions (Transport)	Develop a plan to meet the deadline for each opportunity	BU EHS and Siemens Mobility Fleet Management	Siemens Mobility Senior Leadership	CF Environment Team
Progress Actions (Buildings & Industrial Processes)	Develop a plan to meet the deadline for each opportunity	Facilities Management and Siemens Real Estate	BU EHS	CF Environment Team
Other Actions	Develop a plan to meet the deadline for each opportunity	BU EHS/ Facilities Management/ SRE	Siemens Mobility Senior Leadership	CF Environment Team / Operational Teams
Monitoring and Verification	Track progress against actions and calculate savings	CF Environment Team	Siemens Mobility Senior Leadership	BU EHS, Facilities Management, SRE, Operational Teams
Annual Progress Report	Document and report energy savings and improvements	CF Environment Team	Siemens Mobility Senior Leadership	BU EHS, Facilities Management, SRE, Operational Teams

