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# Net Zero Facilities Operations: Energy, Carbon, Water, Waste and Retrofit Planning Course

23 August – 3 September 2027  
Tokyo





## Net Zero Facilities Operations: Energy, Carbon, Water, Waste and Retrofit Planning Course

**Ref:** 320\_21358 **Date:** 23 August – 3 September 2027 **Location:** Tokyo **Fees:** 12420 GBP

### Programme Summary

Net zero facilities operations are the subject of this ten-day training course for facilities, estates and real estate sustainability leaders at managerial level, ending in a sustainability programme plan for one portfolio. Buildings carry most of an organisation's energy, water and waste, yet targets are often set without a clear route through operations, suppliers and capital works. The approach moves from policy and baselines, through energy, carbon, water, waste and procurement, to retrofit and reporting, and then to a worked plan. Mars Training Centre UK delivers this programme in net zero facilities operations.

### The Business Case

Sustainability targets fail in facilities when nobody owns the baseline, the actions compete with daily service demands and suppliers are not asked to contribute. Leaders who first measure consumption, rank interventions by cost and carbon effect and write sustainability requirements into service contracts turn commitments into daily operating practice and can explain progress to boards, tenants and funders with evidence from their own sites.

- Energy and Carbon Intensity: Falls as consumption is metered, benchmarked and tied to ranked actions.
- Operating Cost: Reduces as water, waste and energy losses are found and removed across the portfolio.
- Reporting Confidence: Improves as data, boundaries and methods are recorded in a repeatable form.

### Principles and Evidence Base

- ISO 41001: Its facility management system requirements frame the policy, roles and performance review work in Sessions 1 and 10.
- ISO 14001: Its environmental management system approach structures the aspects register and improvement cycle in Sessions 2 and 6.
- ISO 50001: Its energy management system requirements guide the baseline and action planning in Sessions 3 and 4.
- ISO 14064-1: Its organisation-level greenhouse gas quantification and reporting principles shape the inventory in Sessions 4 and 9.



## Intended Participants

- Facilities leaders who set operating targets and manage building services contracts.
- Estates leaders who plan capital works, refurbishment and portfolio disposals.
- Sustainability and environment leads who report on buildings and operations.
- Real estate and asset leaders who must show owners and tenants a route to lower emissions.

The programme serves commercial property, healthcare estates, education campuses and public-sector portfolios.

## Learning Outcomes

1. Participants will be able to construct an energy, water and waste baseline for a portfolio.
2. Participants will be able to calculate operational carbon emissions by scope and source.
3. Participants will be able to prioritise energy, water and waste measures by cost and carbon effect.
4. Participants will be able to evaluate suppliers and service contracts against sustainability criteria.
5. Participants will be able to compare retrofit options and sequence them into a net zero pathway.
6. Participants will be able to justify a sustainability programme plan to a board or funder.

## Programme Structure

### Day 1: Sustainability Policy and Facilities Strategy

How do sustainability aims fit the facilities strategy and service model?

- ISO 41001 Policy and Roles Map
- Sustainability Drivers and Stakeholder Register
- Portfolio Scope and Boundary Statement
- Target Setting Principles
- Governance and Reporting Line Chart

### Day 2: Environmental Aspects and Baselines

Which activities drive impact, and how are they measured?

- ISO 14001 Aspects and Impacts Register
- Meter Map and Data Quality Check
- Normalisation by Area and Occupancy
- Portfolio Benchmarking Table
- Baseline Year Selection Rules

### Day 3: Energy Management

Where is energy used and wasted in building operations?



- ISO 50001 Energy Review Method
- Significant Energy Use Analysis
- Building Controls and Schedule Audit
- Energy Performance Indicator Set
- Low-Cost Operational Measures List

## Day 4: Carbon Inventory and Net Zero Pathways

How are operational emissions counted and reduced over time?

- ISO 14064-1 Inventory Principles
- Scope 1, 2 and 3 Source Mapping
- Emission Factor and Boundary Selection
- Net Zero Pathway Model
- Marginal Abatement Cost Curve

## Day 5: Water, Waste and Circularity

How are water use and waste cut across the portfolio?

- Water Balance and Leak Detection Review
- Waste Stream Audit Sheet
- Waste Hierarchy Decision Tree
- Circular Fit-Out and Reuse Options
- Supplier Take-Back Terms

## Day 6: Green Procurement and Supply Chain

How are suppliers and service contracts made to support the targets?

- Sustainability Criteria in Tender Scoring
- Service Specification Clauses for Energy and Waste
- Supplier Data Request Template
- Contract Performance Indicator Schedule
- Product Lifecycle Cost Comparison

## Day 7: Retrofit Planning

Which building upgrades give the largest reduction for the cost?

- Building Condition and Energy Survey
- Retrofit Measure Long-List
- Payback and Lifecycle Cost Model
- Retrofit Sequencing with Planned Maintenance
- Disruption and Tenant Impact Plan



## Day 8: Indoor Environment and Wellbeing

How are energy aims balanced with comfort, air quality and health?

- Thermal Comfort and Ventilation Review
- Indoor Air Quality Monitoring Plan
- Daylight and Lighting Assessment
- Occupant Feedback Survey
- Trade-Off Matrix for Comfort and Energy

## Day 9: Sustainability Reporting and Assurance

How are results reported so that boards and funders can rely on them?

- Indicator Dashboard Design
- Data Control and Evidence Trail
- Annual Performance Narrative
- Internal Review Checklist for Reported Data
- Stakeholder Briefing Pack

## Day 10: Applying Net Zero Facilities Operations to a Portfolio

Is the sustainability programme plan ready for board approval?

- Applying the Session 2 Baseline to the Chosen Portfolio
- Ranking the Session 3 to 5 Measures by Cost and Carbon
- Testing the Session 7 Retrofit Sequence
- Checking the Session 9 Reporting Design
- Completing the Sustainability Programme Plan

## Methodology

The programme is built around data workshops and structured exercises. Participants use anonymised utility, waste and condition data from office, hospital and campus buildings, build baselines and rank measures in small teams, then defend their plan before a simulated board. No engineering calculation beyond spreadsheet arithmetic is required, and templates are provided.

- Suggested activity: Normalising a year of energy data for three buildings and flagging outliers.
- Suggested activity: Scoring three cleaning tenders on sustainability criteria.
- Suggested activity: Sequencing a five-measure retrofit list against a maintenance plan.



## Capstone Output

Each participant completes a sustainability programme plan for one portfolio. It contains a baseline, a carbon inventory, a ranked measure list, a procurement requirement set, a retrofit sequence and a reporting design. It is used to brief the board, brief suppliers and guide the annual facilities budget.

## Frequently Asked Questions

### **Is net zero facilities operations training suitable for leaders without an engineering background?**

Yes. Net zero facilities operations training is set at managerial level and assumes responsibility for buildings, services or reporting, not engineering design or advanced mathematics.

### **Which standards do net zero facilities operations rest on in this programme?**

Net zero facilities operations rest on ISO 41001, ISO 14001, ISO 50001 and ISO 14064-1, covering facility management, environmental, energy and greenhouse gas practice.

### **How is the sustainability programme plan from net zero facilities operations training used at work?**

You use the sustainability programme plan to brief the board, set requirements for suppliers and prioritise the facilities budget.