# Certified Data Centre Energy Professional (CDCEP®) Training

Duration: **5 Day**

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## Overview

Learn how to develop a comprehensive energy efficiency plan for your data centre, covering planning, implementation, analysis and the formulation of practical recommendations with the overall objective of reducing energy consumption and lowering carbon emissions.

The Certified Data Centre Energy Professional (CDCEP®) program addresses the increasing global focus on energy cost, environmental responsibility and the need to reduce unnecessary energy consumption through improved efficiency. These issues remain among the most important operational priorities for modern data centre facilities.

This five-day program develops advanced knowledge of energy efficiency and introduces the tools and methods required to make a meaningful contribution to a data centre energy strategy. Learners develop the ability to identify, analyse and manage energy-related issues while creating measurable efficiency improvements.

The program explores how to strategically plan, design and implement an energy strategy for data centre facilities. Learners are introduced to current energy profiling tools and modelling techniques that can be used to analyse site data, identify realistic energy-saving opportunities and recover available infrastructure capacity.

Power use and distribution throughout the facility are examined in detail. Particular attention is given to servers and IT equipment and to the way energy consumption can quickly become difficult to control when it is not measured, monitored and maintained correctly.

The program also reviews the impact of redundant and backup power infrastructures. Energy consumption associated with air-conditioning, fire suppression, security, alarm systems and other supporting services is considered as part of the overall data centre energy profile.

Certified CDCEP® professionals are expected to understand relevant compliance requirements, including national and international regulations, codes, standards and the US DoE Data Centre Energy Practitioner (DCEP) framework. Learners also have an opportunity to access and review current industry standards during the program.

Following completion, learners are encouraged to continue their professional development. Progression through The Global Digital Infrastructure Education Framework supports additional recognised certifications and qualifications and provides career development opportunities across the network infrastructure and data centre sectors.

## Prerequisites

Previous experience working within a data centre environment is essential. Ideally, learners should have around two years of experience in a technical IT or facilities-based role.

If you would like to discuss your current experience or suitability for the program, please contact us.

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## What You Will Learn

Successful learners will develop advanced knowledge and a forward-looking approach to data centre energy provision and management.

The program develops the capability to:

- Analyse energy consumption
- Identify efficiency opportunities
- Recognise areas of unnecessary energy use
- Build a structured energy efficiency plan
- Implement the plan across the facility
- Measure and monitor energy performance
- Evaluate the effectiveness of efficiency actions

## Outline

### Why Energy Efficiency Matters

- $CO_2$ emission challenges
- Impact of increasing energy demand
- Data centre constraints
- The operational and environmental importance of improved efficiency

### Corporate Social Responsibility

- Understanding Corporate Social Responsibility (CSR)
- Applying the principles of ISO 26000

### Energy Audits

- The energy audit process
- Primary audit environments
- Identifying actions to improve energy efficiency

### Energy Evaluation

- Understanding energy consumption
- Identifying areas of concern
- Using evaluation and modelling resources

### Achievable Expectations and Energy Forecasting

- Establishing realistic performance expectations
- Industry best practices
- Analysis and calculations
- Forecasting future growth

### Energy Metrics

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- Understanding the need for metrics
- Current industry metrics
- Emerging proxy metrics

### Capacity Reclamation

- Understanding design parameters
- Importance of the four key data centre constraints
- Decommissioning
- Capacity management

### KPIs and Metrics

- Defining suitable KPIs
- Selecting and preparing KPIs
- KPI measurement models

### Business Continuity

- Energy considerations within business continuity planning
- Site selection considerations
- Energy efficiency considerations

### Energy Strategy

- Energy efficiency policy
- Energy efficiency strategy
- Energy action planning
- Management review

### Energy Efficiency Plan

- Core elements of an energy efficiency plan
- Continual monitoring
- Maintaining and updating the plan

### Delivering the Energy Efficiency Plan

- Deploying the energy efficiency plan
- Measuring, monitoring and reporting
- Energy-efficient procurement

### Site-Specific Energy Audits

- Defining audit direction
- Developing site-specific audit plans
- Identifying key energy audit areas

### Energy Use Systems

- Major energy-consuming systems
- Changes in the energy profile
- Optimisation actions

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## System-Specific Analysis

- IT analysis
- Power infrastructure analysis
- Environmental analysis
- Cooling analysis

## Analysis Toolsets

- Data centre analysis toolsets
- Energy performance assessment tools

## Active Energy-Efficiency Measures

- Establishing an energy baseline
- Measuring and monitoring
- Data analysis
- Preparing the energy plan
- Real-time monitoring

## Return on Investment

- Return on Investment (ROI)
- Evaluating IT value
- Financial planning
- Total Cost of Ownership (TCO)

## Codes and Best Practice

- DoE DCEP
- EU Code of Conduct

## A Strategy for Energy Management

- Energy management roadmap
- Energy management team
- Defined responsibilities for energy performance

## Energy Awareness

- Building energy awareness across the organisation
- Maintaining an ongoing focus on efficiency

## Immediate Energy Actions – The 4Cs

- Importance of the four key constraints
- Identifying immediate areas of concern
- Taking action on urgent energy issues

## Medium-Term CAPEX Actions

- IT efficiency measures
- Cooling efficiency measures

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- Power efficiency measures
- Assessing CAPEX and ROI impacts

### Long-Term CAPEX / OPEX Actions

- Long-term power efficiency
- Long-term cooling efficiency
- CAPEX and OPEX evaluation

### Processes and Procedures

- Process and procedure requirements
- Monitoring operational processes
- Controlling procedures
- Updating practices in line with energy performance

### Future Technical Developments

- Emerging technologies
- New technical approaches that may influence data centre energy use

### Energy Efficiency Accreditations

- Environmental accreditations
- Energy accreditations
- Data centre energy-specific accreditations

### Case Studies

A range of individual and group case studies is incorporated throughout the program. These exercises focus on developing practical energy efficiency plans, analysing data, identifying energy-saving opportunities and translating findings into realistic improvement actions.