

Management



Certified Data Centre  
Energy Professional

BTEC Level 5  
Professional Diploma

The **Global Leader** in **Technical Education**  
for the **Digital Infrastructure Industry**

## Certified Data Centre Energy Professional (CDCEP®)

### Program Objectives

The CDCEP® is designed to provide an unrivalled knowledge and forward thinking approach to energy provision, use and management.

Those with the CDCEP® certification can demonstrate advanced knowledge and a holistic approach to improving energy efficiency potential in a data centre through the creation of a comprehensive, future-ready and sustainable energy strategy. Through implementation of the structured action plan they can provide long-term carbon reductions and financial savings, whilst continuing to meet the on-going requirements of the business and regulatory demands.

### Learner Profile

This program is targeted at individuals who are responsible for the management and use of energy within a data centre.

### Pre-Requisites

Experience of working within a data centre environment is essential.

### Program Duration

5 day class requiring pre-class reading of approximately 20 hours.

### Program Requirements

Learners are required to undertake pre-class reading and bring a laptop with internet connectivity to the class.

### Qualification

- ▶ Internationally and industry recognised BTEC Level 5 Professional Diploma Certified Data Centre Energy Professional

### Certification

- ▶ Official Certified Data Centre Energy Professional (CDCEP®) certification
- ▶ Use of CDCEP post nominal title
- ▶ Use of the CDCEP® logo

Certifications are a commitment to life-long learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

### Additional Awards

- ▶ Continual Professional Development (CPDs)
- ▶ 7 IEEE Continual Education Units (CEUs)



## Certified Data Centre Energy Professional (CDCEP®)

### Program Overview

Become an expert in data centre energy management.

Learn how to create an energy efficiency plan for your data centre. Includes creation, implementation, analysis and formulating recommendations with the ultimate objective of reducing energy use and carbon emissions.

Combined with ever-rising wholesale energy prices and legislation that penalises those using excessive amounts of electricity and the impact of carbon emissions; energy and more importantly, energy efficiency, is now an issue that is foremost in the minds of those operating within the data centre space.

The Certified Data Centre Energy Professional (CDCEP®) program teaches expertise in energy efficiency and provides the tools to make a significant contribution to the energy strategy and effectively deal with, and manage, energy related issues and on-going energy efficiency.

Learners will learn how to strategically plan, design and implement an energy plan for data centre facilities, focusing on energy efficiency. They will be introduced to current energy profiler tools and models to analyse site data and formulate a comprehensive action plan to implement real energy savings potential and capacity reclamation.

The use and distribution of power will be explored considering computer systems, servers, networking and other IT equipment and how usage can quickly spiral out of control when it is not being measured, monitored and maintained correctly. In addition, the use of redundant and back-up power infrastructure will be analysed considering the power utilisation for air-conditioning, fire-suppression, security, alarms and other supporting systems. These types of high power, high density equipment all place additional burden on the power supplied and cooling systems.

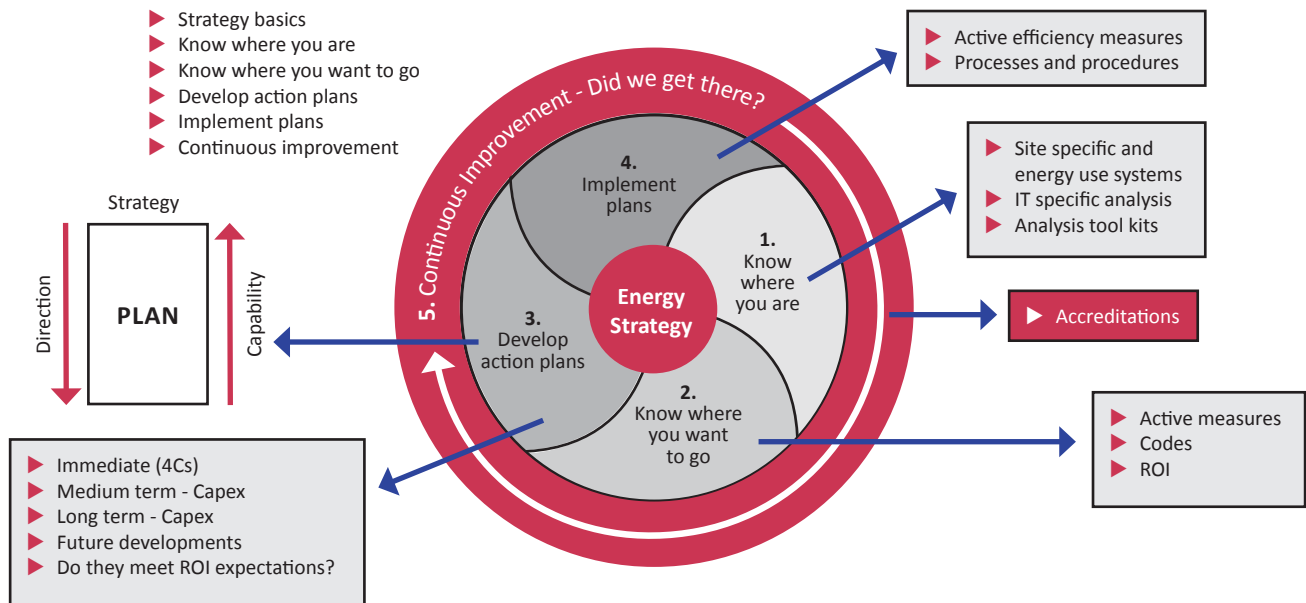
The CDCEP® program content is continually updated to reflect the key industry energy efficiency developments and takes into account the requirements of the latest version of the EU Code of Conduct in Data Centres and the US DoE Data Centre Energy Practitioner (DCEP).

It also takes into account the requirements of the current BS EN 50600 and TIA 942-B standards, industry best practice documentation and codes of conduct.

During the program learners will also have access to current standards for reference purposes.

This program is a must for all Data Centre Managers, Operations Managers, Facilities Managers, IT & Network Managers and supporting departments responsible for improving the energy efficiency of all the data centre environments whilst meeting regulatory demands.

# CDCEP® Program Objectives



## Certified Data Centre Energy Professional (CDCEP®) Topics

### Core Unit

#### Need for Energy Efficiency?

- ▶ CO<sub>2</sub> emissions issues
- ▶ Impact of increased energy demand
- ▶ Data centre constraints

#### Corporate Social Responsibility

- ▶ Understanding Corporate Social Responsibility (CSR)
- ▶ Implementation of ISO 26000

#### Energy Audits

- ▶ Energy audit process
- ▶ Primary audit environments
- ▶ Actions to improve energy efficiency

#### Energy Evaluation

- ▶ Understanding energy consumption
- ▶ Identification of areas of concern
- ▶ Evaluation and modelling sources

#### Achievable Expectations & Energy Forecasting

- ▶ Achievable expectations
- ▶ Industry best practices
- ▶ Analysis and calculations
- ▶ Forecasting growth

#### Energy Metrics

- ▶ Need for metrics
- ▶ Current industry metrics
- ▶ New proxy metrics

#### Capacity Reclamation

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

#### KPIs & Metrics

- ▶ Defining KPIs
- ▶ Selecting and preparing KPIs
- ▶ KPI measuring models

#### Business Continuity

- ▶ Business continuity considerations
- ▶ Site selection considerations
- ▶ Energy efficiency considerations

#### Energy Strategy

- ▶ Energy efficiency policy
- ▶ Energy efficiency strategy
- ▶ Energy action plan & management review

#### Energy Efficiency Plan

- ▶ Elements of the energy efficiency plan
- ▶ Continual monitoring

### Professional Unit

#### Delivery of the Energy Efficiency Plan

- ▶ Deployment of the energy efficiency plan
- ▶ Measuring, monitoring and reporting
- ▶ Energy efficiency procurement

#### Site Specific Energy Audits

- ▶ Audit direction
- ▶ Site specific audit plans
- ▶ Keys energy audit areas

#### Energy Use Systems

- ▶ Major energy use systems
- ▶ Energy profile changes
- ▶ Optimisation actions

#### System Specific Analysis

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

#### Analysis Tool-sets

- ▶ Data centre toolsets

#### Active Energy-Efficiency Measures

- ▶ Establishing an energy baseline
- ▶ Measuring and monitoring
- ▶ Data analysis and energy plan preparation
- ▶ Real-time monitoring

#### Return on Investment

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

#### Codes & Best Practice

- ▶ DoE DCEP
- ▶ EU Code of Conduct

#### A Strategy for Energy Management

- ▶ Energy management roadmap
- ▶ Energy management team
- ▶ Energy awareness

#### Immediate Energy Actions (4C's)

- ▶ Importance of the four key constraints
- ▶ Identifying the immediate concerns
- ▶ Actioning the immediate concerns

#### Medium-Term CAPEX Actions

- ▶ IT measures
- ▶ Cooling measures
- ▶ Power measures
- ▶ CAPEX & ROI impacts

#### Long-Term CAPEX/OPEX Actions

- ▶ Long-term power efficiency
- ▶ Long-term cooling efficiency
- ▶ CAPEX & OPEX evaluation

#### Processes & Procedures

- ▶ Process & procedure requirements
- ▶ Process & procedure monitoring and control

#### Future Technical Developments

- ▶ New developing technologies

#### Energy Efficiency Accreditations

- ▶ Environmental accreditations
- ▶ Energy accreditations
- ▶ Data centre energy accreditations

There are a number of group and individual case studies to formulate energy efficiency plans throughout this program.