Program Overview

Become an expert in data center energy management.

Learn how to create an energy efficiency plan for your data center. 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 penalizes 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 center space.

The Certified Data Center 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 discover how to strategically plan, design and implement an energy plan for data center facilities, focussing on energy efficiency. They will be introduced to current energy profiler tools and models to analyze 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 analyzed considering the power utilization 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 Centers and the US DoE Data Center 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 Center Managers, Operations Managers, Facilities Managers, IT & Network Managers and supporting departments responsible for improving the energy efficiency of all the Data Center environments whilst meeting regulatory demands.
CDCEP® Program Objectives

Certified Data Center Energy Professional (CDCEP®) Topics

Core Unit

Need for Energy Efficiency?
- CO₂ emissions issues
- Impact of increased energy demand
- Data center 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 modeling sources

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
- Optimization actions

System Specific Analysis
- IT analysis
- Power infrastructure analysis
- Environmental analysis
- Cooling analysis

Analysis Tool-sets
- Data center toolsets

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

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

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

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 center energy accreditations

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

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