Szkolenie: HPE

# Certified Data Center Environmental Sustainability Specialist (CDESS®) Training with Exam

## Cel szkolenia:

This course explains of the standards and guidelines related to environmental sustainability, including how to move your data center (existing or new) to a more environmentally sustainable design and operations

Course objectives

After completion of the course, the participant will be able to:

- Understand the impact of data centers on the environment
- Describe the various environmental/energy management standards
- Understand the purpose and goals of the legally binding international treaties on climate change
- Implement various sustainable performance metrics and how to use them in the data center environment
- Manage data center environmental sustainability using international standards
- Set up the measurement, monitoring and reporting of energy usage
- Use power efficiency indicators in a variety of data center designs
- Use best practices for energy savings in the electrical infrastructure and in the mechanical (cooling) infrastructure
- Use best practices for energy savings for (information and communications technology (ICT) equipment and data storage
- Understand the importance of water management and waste management
- Understand the different ways to use sustainable energy in the data center
- Get practical tips and innovative ideas to make a data center more sustainable

Audience

The primary audience for this course is any IT, facilities or data center professional who works in and around the data center and has the responsibility to improve efficiency and environmental sustainability, while maintaining the availability and manageability of the data center.



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## Plan szkolenia:

- Impact of Data Centers on the Environment
  - Predictions in 2010
  - Current situation
  - Outlook and commitments
- What is Environmental Sustainability
  - The importance of sustainability
  - Senior management commitment
  - Environmental sustainability framework
  - Sustainability policies
  - Performance standards and metrics
  - Information policies
  - Transparency
  - Awareness
  - Service charging models
- Environmental Management
  - Environmental sustainability framework (ISO 14001)
  - Standards and guidelines (ISO 50001/ISO 30134)
  - Measurement and categories
  - Baselining
  - Trend analysis
  - Reporting
- Power Efficiency Indicators
  - Various efficiency indicators
  - Power Usage Effectiveness (PUE)
  - PUE measurement levels
  - Factors affecting PUE
  - Measurement points and intervals
  - PUE in mixed source environments
  - Measuring PUE in a mixed-use building
  - PUE reporting
  - Impact of PUE after optimizing IT load
- Electrical Energy Savings (Electrical)
  - Identifying the starting point for saving energy
  - Sizing of power



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- DC power
- Generators
- UPS systems
- Power Factor (PF)
- Energy savings on lighting

- Electrical Energy Savings (Mechanical)
  - Energy savings on the cooling infrastructure
  - Temperature and humidity setpoints
  - Various energy efficient cooling technologies
  - Energy savings on the airflow
  - Liquid cooling
  - Energy re-usage
  - PUE, ERE/ERF and Control Volume
- Electrical Energy Savings (ICT)
  - Procurement
  - IT equipment energy efficiency
  - ITEEsv, SMPE, SMPO
  - IT equipment utilization
  - Server virtualization
  - Open compute project
- Electrical Energy Savings (Data Storage)
  - Data management
  - Data storage management
  - Data storage equipment efficiency
- Water Management
  - Water Usage Effectiveness (WUE)
  - Improving WUE
  - Water usage at the power generation source
  - Energy Water Intensity Factor (EWIF)
- Waste Management
  - Waste management policies
  - Life-cycle assessment (cradle to the grave)
  - 3 R’s for waste management
  - Reduce
  - Reuse
  - Secondhand market



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    - Recycle
- Sustainable Energy Usage
    - Sustainable energy sources
    - Power purchase agreements
    - Energy attribute certificates
    - Renewable Energy Factor (REF)
    - Matching renewable energy supply and demand
    - Sustainable energy storage
    - Carbon trading
- Automated Environmental Management Systems
    - Use of AI and machine learning
    - Load migration
    - Data Centre Infrastructure Management (DCIM) solutions

## Wymagania:

Participants must have at least one to two years' experience in a data center or facilities environment. The Certified Data Centre Professional (CDCP®) is highly recommended. The CDESS® discusses data center facility aspects, and without the CDCP or equivalent knowledge, the participant may not gain the full benefits of the CDESS training.

## Poziom trudności



## Certyfikaty:

Candidates who successfully pass the exam will receive the official 'Certified Data Center Environmental Sustainability Specialist' certificate. The certification is valid for three years after which the candidate needs to re-certify.

## Prowadzący:

Authorized HPE Trainer.



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