

CERTIFYING
BEST PRACTICE,
IMPROVING
PERFORMANCE.



WHAT IS CEEDA?

CERTIFYING BEST PRACTICE, IMPROVING PERFORMANCE.

CEEDA provides an audited and certified assessment of the implementation of energy efficiency best practices within a data center. It delivers an operational and deployment roadmap for further improving performance, enables organizations to benchmark their facility energy efficiency performance and to publicly demonstrate their leadership in data center energy efficiency.

HOW DOES IT WORK?

The assessment cycle is of two years' duration and comprises a comprehensive initial assessment and a second assessment one year later. The initial assessment provides a detailed analysis of the implementation of a set of energy efficiency best practices in M&E, IT and operational management, and an improvement roadmap. The second assessment permits evaluation of the energy efficiency impacts of the roadmap, new infrastructure deployment and new services delivered. It also enables practical knowledge about the latest advances in energy efficiency worldwide to be transferred to the client.

YEAR ONE

Initial assessment and certification: assessment report, benchmarking tools, implementation gap analysis, improvement roadmap, transfer of best practice knowledge, certification

YEAR TWO

Assessment of impact of changes in service provision, infrastructure deployment and operational management on energy efficiency. Knowledge transfer to the client on the latest advances in energy efficiency gathered from leading practitioners worldwide

THE PROCESS

The assessment process is simple. After discussing the history and profile of the facility to be assessed and the objectives that the client wishes to achieve, an assessor remotely gathers evidence of the implementation and method of measurement of a set of up to 90 best practices and metrics. Once complete, the assessor visits the facility in order to verify the evidence gathered, compiles a report based on the results of the assessment and recommends a certification level. This report is then analyzed and the assessor is interviewed by a BCS-approved auditor prior to confirmation of the certification award level and transfer of the assessment report.

“Since the CEEDA assessment we have seen a steady increase in IT-load whilst facility energy consumption has been flat.”

RAJ SHARMA
Operations Manager, Data Center Services,
Westpac Banking Corporation



CRITERIA & COMPARISONS

WHAT IS ASSESSED?

The certification is made against the assessment of a set of discrete criteria based on best practices, specifications and metrics from ASHRAE, Energy Star, ETSI, EUCoC and The Green Grid.

Individual and collective analyzes of these criteria provide the basis for determining the certification level awarded and also deliver a set of resources which can be leveraged to enhance performance throughout the certification period.

A gap analysis of the criteria attained provides the basis of a roadmap for further improvement

An executive summary represents a guide to the present and potential future status of a facility and the requirements for enhancing performance holistically

Synergies between different criteria are identified and points of highest sensitivity isolated

Advances in energy efficiency relating to discrete criteria and operational management are fed-back during the two year certification cycle, permitting progressive and ongoing reporting, tracking and performance improvement

GOLD

- External control of equipment energy use
- Liquid cooled IT equipment
- Dynamic building cooling control
- IT equipment inlet environmental conditions
- PDU level metering of IT energy consumption
- Control whole system energy use
- PDU level metering of M&E
- Row and rack temperature metering
- Algorithmic efficiency in software
- Capture rain water
- IT device level temperature metering
- Coefficient of renewable energy
- Green power procurement
- IT device level energy metering
- Automated energy and environmental reporting console
- Automated energy and environmental metering

SILVER

- Embedded energy
- M&E environmental operating ranges
- Extend operating temperature and humidity ranges
- Energy Star IT hardware
- Low power storage devices
- Waste heat reuse
- Power management new IT assets
- Water metering
- Prioritize power in new device selection
- Heat pump assisted waste heat reuse
- High efficiency UPS
- Provision power and cooling to power draw of IT equipment
- Free cooling
- Energy & temperature reporting hardware
- Select free standing equipment to optimize air flow
- Scheduled audit of IT environment requirements

BRONZE

- Integrated IT, Service Provision, M&E teams
- Modular UPS
- Optimize part load operation
- Variable speed drives
- Appropriate resilience
- Separate environmental zones
- Appropriate power density
- Scalable/modular
- Business-led resource sharing platform grid & virtualization
- High COP chillers
- Contained hot/cold air
- Equipment segregation
- Hot/cold aisle
- ASHRAE A2/ Increase working humidity range
- Elevated IT operating temperature
- Raised floor/suspended ceiling
- Maximize part load efficiency
- Variable speed fans CRACS

An illustrative guide to the criteria needed to be attained for each certification level. The results are cumulative, in order to attain Gold, you also need to fulfil all Bronze and Silver criteria.

HOW DOES CEEDA COMPLEMENT OTHER CERTIFICATIONS?

CEEDA focuses uniquely on ongoing energy efficiency best practices in M&E, IT, the holistic management of the facility and the services it delivers, thereby complementing established facility sustainability and process oriented certifications.

FEATURE	CEEDA	LEED	BREEAM	ISO 50001
Percentage of the Assessment Devoted to Operational Energy Efficiency	95%	35%	25%	N/A
Transport		●	●	
Building Envelope		●	●	
Indoor Environmental Quality & Health & Wellbeing		●	●	
Land Use, Sustainability & Ecology		●	●	
Material Waste Flows - Operational		●	●	
Embedded Energy Equipment	●	○	○	
Service Provision Demand Response Management	●	○	○	○
BMS	●	●	●	
Metering M&E, IT	●	●	●	●
Minimum Energy Efficiency Performance	●	●	●	
Renewable Energy Component Assessed	●	●	●	
Water Management	●	●	●	
Continuous Improvement Policy for Energy Efficiency	○			●
Continuous Professional Development (CPD) - Energy Efficiency Performance	●			
Cumulative Step-Based Awarded Performance Categories	●			
DCIM - M&E, IT, Water	●			
Holistic Operational Management of IT & M&E Infrastructure	●			○
IT Infrastructure, Services & Management Energy Efficiency Best Practices	●			
Mechanical & Electrical Energy Efficiency Best Practices	●			○
Ongoing Feedback on Energy Efficiency Best Practices and Metrics, Sourced World Wide	●			
Ongoing Performance and Best Practice Feedback Within Certification Period	●			
Operations & Maintenance	○			○
Roadmap for Further Energy Efficiency Enhancement	●			○
Specific Frameworks for Energy Efficiency Performance in Design & Operation	●			
Specific Frameworks for Owner-Operator, Colocation, Tenant	●			

Key ● Wholly Assessed ○ Partially Assessed

“ We are proud of the certification – it is useful to be able to tell customers that apart from the high availability, we have high efficiency: customers appreciate that is a continuous, on-going necessity.”

DAX SIMPSON
Director, Data Center Infrastructure,
KIO Networks

DELIVERY & BENEFITS

WHAT DOES CEEDA DELIVER?

- Publicly recognized external verification of the implementation of energy efficiency best practices and authentication of energy efficiency performance metrics
- A framework of disciplines which can be used to enhance energy efficiency performance and infrastructure deployment strategy in all facilities
- A set of metrics and best practices which enable the tracking, reporting and minimization of carbon emissions, helping to mitigate the impact of potential carbon reduction legislation
- A detailed gap analysis of the operational status of a set of key energy efficiency criteria and a roadmap describing the measures required to improve performance
- An impact assessment of the effect of changes in facility infrastructure, services and management occurring mid-way in the certification cycle
- Transfer of practical knowledge about the latest advances in energy efficiency worldwide

WHO CAN BENEFIT?

CEEDA provides specific assessment and certification frameworks for data center owner-operators, colocation facilities and their tenants, and for organizations which are designing and operating new facilities.

“This certification is a testament to our commitment to lead and achieve energy efficiency in our data centers and in our business.”

RANGU SALGAME, Chief Executive Officer,
Growth Ventures and Service Provider Group,
TATA COMMUNICATIONS

ENTERPRISE

CEEDA Enterprise permits owner-operators of existing facilities to validate and certify their ongoing energy efficiency strategy. It helps owner-operators to develop frameworks for maximizing the performance of their existing infrastructure assets and put operational disciplines in place to maintain that performance.

TELCO

CEEDA Telco is adapted to the specific environmental and operational requirements of facilities which are dominated by telco equipment, but which retains the flexibility to deal with mixed-use environments.

COLO & COLO-TENANT

CEEDA Colo enables colocation providers to demonstrate the implementation of energy efficiency best practice in the parts of the facility directly under their control, and leverage the findings of the CEEDA process to improve their operations. CEEDA Colo-Tenant provides a structure which helps major tenants of CEEDA certified colocation providers to optimize the operational performance of their IT infrastructure, applications and management.

DESIGN-OPERATE

CEEDA Design-Operate assesses the incorporation of the most advanced energy efficiency best practices at the design stage and also in the operating facility. By comparing sets of assessment data from each stage, builders and operators of new facilities are able to validate the integration of energy efficiency measures in the design, and then assess and certify the actual performance of the operational facility. The process is similar to other assessments, with a two year certification cycle from the point of operational assessment.

"Through following some of the CEEDA elements, the reduction of energy usage has been a measurable factor - at the same time as computing load has been increasing, we've managed to deliver more for less."

STEVE WATT, CIO,
UNIVERSITY OF ST ANDREWS

"We are delighted to have attained this achievement - we take our corporate social responsibility very seriously and developing an energy efficient data center is part of this. To have achieved a CEEDA Gold standard is excellent."

RICHARD HARRIS, CIO,
ARM

"CEEDA certification is a valuable opportunity to confirm that our data center operations are consistent with our sustainability strategy. We are convinced that the competitiveness and reliability of our services is directly related to our ability to operate efficiently and environmentally."

ANDRES CORDOVEZ FERRETO, CTO,
AXTEL

PARTICIPANTS INCLUDE



About CEEDA. The Certified Energy Efficient Datacenter Award (CEEDA) is a global assessment and certification program designed to recognize the implementation of energy efficiency best practices in operating data centers. The framework is progressive in terms of sophistication of best practices applied – reflecting the complex and holistic nature of data center operations – and is based on specifications drawn from ASHRAE, Energy Star, ETSI, EUCoC and The Green Grid. The certification is awarded at three levels: Gold, Silver and Bronze, with a certification cycle of two years. In addition to providing a globally applicable benchmark for comparison and harmonization within and across organizations, CEEDA also provides a gap analysis and performance improvement map, helping maintain performance throughout the certification period. The CEEDA program is run by DatacenterDynamics and ratified by BCS, the Chartered Institute for IT. For more information on CEEDA please visit www.ceedacert.com or contact info@ceedacert.com