

DATA CENTER ENERGY EFFICIENCY & EMISSIONS

FAQ & TERMINOLOGY

SWISS DATACENTER EFFICIENCY ASSOCIATION

 DATA
CENTER

EFFICIENCY

WHY A DC EMISSIONS LABEL

Datacenters (DCs) serve as the critical backbone for our digital economy, powering everything from cloud computing to data storage. As the digital transformation continues to advance globally, DCs are proliferating, leading to increases in energy consumption and carbon emissions. Recognizing this challenge, the Swiss Datacenter Efficiency Association (SDEA) has introduced SDEA Label. It brings critical transparency to the energy efficiency and end-to-end climate impact of DC operations, serving as a valuable metric for best-in-class technologies and operational efficiency. In an era of heightened environmental awareness, our label aims to promote sustainability as a cornerstone in the DC industry.

WHAT IS SDEA LABEL

SDEA Label is a comprehensive certification system that rates energy efficiency and the overall climate impact of DC operations. Offered in three distinct grades – SDEA Gold, SDEA Silver, and SDEA Bronze – the label provides a nuanced understanding of a DC's sustainability efforts. It quantifies a comprehensive energy efficiency index based on end-to-end energy flow. This flow encompasses not just cooling systems and electrical infrastructure, but also the actual IT equipment, including servers, storage, and networking gear. A premium variant of the label even quantifies carbon emissions, factoring in the emissions from ingress energy sources. The label's criteria and certification processes are impartially governed by the SDEA, ensuring an independent and standardized approach to sustainability.

WHO IS BEHIND SDEA LABEL

The Swiss Datacenter Efficiency Association (SDEA) was founded as a result of a digital-switzerland challenge aimed at fostering digital transformation. It combines the expertise of various corporate, academic, and organizational leaders, including EcoCloud at EPFL, Hewlett Packard Enterprise, Lucerne University of Applied Sciences and Arts, asut, and SDCA. The SDEA Label was officially launched in January 2020 at the World Economic Forum (WEF) in Davos. The SDEA Board members oversee the stringent criteria, evaluation methodologies, and awarding processes, solidifying the label's credibility and independence.

HOW TO GET SDEA LABEL

To earn either the baseline or premium SDEA Label, applicants must undergo a rigorous certification process. This process involves gathering detailed information on the DC's operational metrics and submitting these online at label.sdea.ch. An authorized auditing company then reviews and validates the KPIs, filing an evaluation report. The SDEA's board members review these reports before awarding the appropriate label. This label serves as a testament to a DC's commitment to energy efficiency and minimal environmental impact.

WHO CAN APPLY

The label is open to owners of various types of infrastructure, be it DC-related or IT-related, as long as it's hosted in a physical location like a campus. The label is modular – allowing for a campus to host one or more instances of such structures – and can be awarded in any of the following three scenarios:

- DC infrastructure only: Owners can apply for a label to showcase the efficiency of their DC infrastructure alone.
- DC instance: A single owner with both DC and IT infrastructure can apply for one comprehensive label.
- IT infrastructure only: Owners of IT infrastructure can seek a label if hosted in an already SDEA-certified DC.

WHAT IS THE LABEL'S LIFETIME

Once granted, the SDEA Label remains valid for a period of three years. During this time, label holders are encouraged to communicate their certification status in line with SDEA guidelines. Upon the expiration of this term, a re-evaluation is necessary for continued use, providing an opportunity for possible upgrades based on new sustainability initiatives.

SDEA TERMINOLOGY

DATACENTER (DC): A collection of Information Technology (IT) system components including computer, network, and storage systems together with dedicated space and housing technology for the IT systems including but not limited to electrical, cooling, heat recycling and physical security systems.

DC INSTANCE: A combination of a DC infrastructure instance and one or more IT infrastructure instances. The DC instance defines the basic unit for which a label is awarded. Each DC instance requires a separate application and evaluation to receive a label.

DC INFRASTRUCTURE: Refers to all equipment including but not limited to electrical, cooling, heat recycling and physical security systems required to host IT infrastructure. A DC infrastructure instance can host one or more IT infrastructure instances.

DC INFRASTRUCTURE INSTANCE: The implementation of a specific DC infrastructure; such an instance can host one or more IT infrastructure instances.

IT INFRASTRUCTURE: Refers to computing, networking, and storage systems.

IT INFRASTRUCTURE INSTANCE: Used for the implementation of a specific IT infrastructure; such an instance is either owned by the DC operator or, in the case of a co-location relationship, by the respective customer.

PUE+: Used for an improved PUE metric, for which we include possible energy recovery options.

CUE: Carbon usage effectiveness (CUE) is a metric for measuring the amount of CO₂ a datacenter emits on a daily basis. The metric was developed by the non-profit consortium, The Green Grid.

ABOUT THE ASSOCIATION

SDEA is a consortium of industrial and academic sustainability pioneers, united in crafting a measurable approach to datacenter efficiency and emissions certification. This collaborative effort, initiated by Hewlett Packard Enterprise (HPE), involves key players such as EcoCloud at EPFL, Lucerne University of Applied Sciences and Arts (HSLU), Swiss Data Center Association (SDCA), and Swiss Telecommunications Association (asut).



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