Energy Efficient End-use Equipment
International Energy Agency

ENERGY EFFICIENCY POLICY BRIEF

Data Centre Energy Efficiency Labels

EDNA23

The Efficient, Demand Flexible Networked Appliances (EDNA) Platform of the 4E TCP provides analysis and policy guidance to members and other governments aimed at improving the energy efficiency and demand flexibility of connected devices and networks.

This briefing summarises the key findings of the EDNA report: ***Data Centre Energy Efficiency Labels***, which explores the characteristics and effectiveness of existing data centre energy efficiency labels and suggests features for a worldwide applicable labelling scheme. It covers voluntary energy efficiency labelling schemes for data centres across Asia, Europe, North America, and Oceania, examining thirteen existing schemes operating at national and international levels.

Recommendations for Policy Makers

- Implement mandatory rather than voluntary labels where possible, as they provide information on all data centres on the market and provide better transparency for policy evaluation. They also:
  - provide an incentive for all data centre operators to improve their performance
  - provide consistent information on all data centres in scope (not just those who chose to apply and qualify for a label), which means that it is easier for customers to select data centres based on energy efficiency
- Ensure labelling criteria do not neglect IT system energy use.
- Include certification date on labels and require annual performance reviews due to the dynamic nature of data centre operations.
- Establish a minimum size thresholds (e.g., 500 kW IT power) to avoid burdening smaller operators.
- Design labels to be governed by national/multi-national governments maintaining internationally consistent core features:
  - Scope
  - Standardised criteria and weighting
  - Performance level thresholds
  - Annual certification
- While allowing national customisation of:
  - Label design and number of label classes
  - Which performance level is used for each label class
  - Conformity assessment procedures

MORE INFORMATION

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The EDNA report on **Data Centre Energy Efficiency Labels** as well as further information can be found on the **EDNA website** and by contacting the EDNA Platform Manager at **edna@iea-4e.org**.

Key Findings

Current Landscape

Thirteen schemes were identified worldwide, all voluntary, with most being long-standing programmes. About half are governed by industry associations and half by national governments. Despite their longevity, most schemes have only a handful of certified data centres, suggesting limited market penetration of voluntary approaches. An overview of features of these schemes is in the table.

Name	Building or DC	Separate criteria for new/existing	Separate criteria by DC type*	Length of validity (years)	Government (Gov) or industry (Ind)	Number currently listed as labelled
NABERS	DC	N	Y	1	Gov	4
Austrian Ecolabel	DC	Y	Y	2†	Gov	0
Blue Angel	DC	Y	Y	2†	Gov	3
BEAM Plus	Building	Y	N	NS	Ind	4
CEEDA	DC	Y	Y	NS	Ind	49
Green DC certification	DC	N	N	1	Ind	2
Green Building Index DCs	Building	Y	N	3	Ind	0
Green Mark	Building	Y	N	3	Gov	8
SDEA label	DC	N	Y	3	Ind	3
ENERGY STAR	Building	N	N	1	Gov	99
PEER-DC Note – proposed only	DC	N	N	NA	Gov	NA
Carbon Neutral DC Pact	DC	Y	N	4	Ind	15 certified 51 self certified
DC green rating	DC	N	Y	1	Gov	50

NS: not specified; NA: not applicable
DC: data centres
* that is, different criteria for enterprise and colocation data centres
† The length of validity is unclear.

The EU is planning to present a label for all data centres in Europe that participate in the reporting scheme. This scheme will be part of the Data Centres Energy Efficiency Package, scheduled for Q1 2026.

Infrastructure vs. IT System Efficiency

While infrastructure efficiency can be measured using standardised KPIs (PUE and ERF), there are currently no standardised metrics for IT system efficiency. This creates a significant challenge for mandatory labels, which require standardised measurements, so at present can only address infrastructure efficiency. This risks focusing attention solely on infrastructure efficiency while potentially neglecting IT system optimisation.

Implementation Challenges

The 3 key challenges can be seen in the figure here.