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Implementing the EED:
Data centers and the German Energy Efficiency Act

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Overview

1. Context: EED recast
2. German Energy Efficiency Act (EnEfG)
3. Energy efficiency requirements in EnEfG
4. Register for data centers

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Energy Efficiency Directive (EED) and context

- The **EED** tackles energy aspects of EU‘s climate transition under ‚Fit for 55‘, e. g.
  - – 11,7% final energy consumption (compared to forecasts from 2020).
- ‘**Fit for 55**’ aims to cut emissions by 2030 by at least 55% (compared to 1990 levels).
- **REPowerEU** aims at increased resilience and climate tranformation
- EED came into effect on 10 October 2023

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Energy Efficiency Act in Germany

- First legal framework to improve energy efficiency in GER across sectors. (Came into effect on 18 November 2023)
- Implementing requirements from EED, e. g. Art. 5 EED, Art. 12 EED
- Binding targets for both primary and final energy reduction in alignment with the EED.
- From 2024 until end of 2030: 45 TWh reduction (in FEC) per year on the federal level; in each state 3 TWh per year (from 2026-2030)

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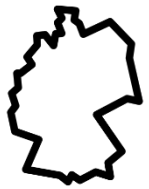
Data centers in Germany



Germany has second highest number of DCs worldwide, only US has more

Distribution by installed IT-Power
- More than 3.000 DCs > 40 kW
- 90 DCs > 5 MW

Total energy consumption in 2022: 18 TWh/a

Source: BITKOM

image: flaticon.com

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Definition of data centers in EnEfG

- Central accommodation, connection and operation of IT.
- Non-redundant nominal connected load of at least 300 kW. (roughly power supply)
- Wider definition compared to EED

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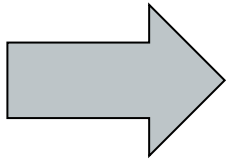
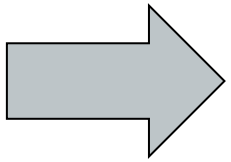
Energy efficiency requirements § 11 EnEfG

<u>Starting operation:</u>
before July 2026



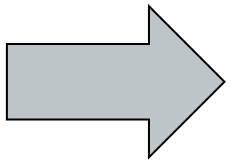
<u>Starting of operation:</u>
from July 2026

<u>PUE requirements:</u>
PUE 1,5 from July 2027
PUE 1,3 from July 2030



<u>PUE requirement:</u>
PUE 1,2

<u>Waste heat usage:</u>
Not mandatory



<u>Waste heat usage of at least (ERF):</u>
10% from July 2026
15% from July 2027
20% from July 2028

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Further requirements in EnEfG

- Renewable energy usage: 50% starting 2024 / 100% from 2027
- Operators of DCs must tell customers their individual energy consumption
- Energy management systems (EMS):
  - Implementation of EMS/UMS until July 2025;
  - certification necessary from 2026 for DCs > 1 MW or > 300 kW if public body

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Art. 12 EED: National register for DCs

- Operators of DCs are obliged to report specific data points to a national register
- The German register will be **operational in April 2024.**
- All necessary data points are transferred in bulk to the EU data base, i. e. all relevant German DCs.
- Basis for publicly accessible data on DCs

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Data points

- Annex VII in EED and Annex 3 in EnEfG include data points.
- Examples:
  - Basic data: Name & adress of DC operator, starting date of operation, etc.
  - General specifications: floor area, installed power, etc.
  - Energy /performance data: energy consumption, renewable energy use, amount and temperature of waste heat, PuE value, non-redundand connected load etc.
- Implementation of Delegated Act from Art. 33 (3) EED

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Communication

- General: Press releases, Social Media
- Specific: Check lists, information sheets etc.
- Direct communication:
  - Stakeholder meetings
  - Webinars

🗔 Website & FAQ www.rechenzentrums-register.de

🖹 E-Mail and 🕽 Hotline support

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Thank you for your attention.

Contact

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Sources:

https://www.bitkom.org/sites/main/files/2022-02/10.02.22-studie-rechenzentren.pdf

https://www.bitkom.org/Presse/Presseinformation/Deutsche-Rechenzentren-Wachstum-Effizienz