Executive Summary

Community Data Center Standard — China Edition

Eternal Harmony AI | June 2026

Harmonize Data Centers: Green Computing Framework

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Harmonize Data Centers: Green Computing Compliance and Community Benefit Framework

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I. The Problem We Solve

China's data center electricity consumption is projected to reach 400 billion kWh by 2030 — equivalent to the annual power output of approximately four Three Gorges Dams. AI-driven computing demand is accelerating this growth. The National Development and Reform Commission (NDRC) and other departments, in the Implementation Plan for Achieving Carbon Peak and Carbon Neutrality Goals and Promoting Green and High-Quality Development of Data Centers, 5G, and Other New Infrastructure (发改高技〔2021〕1742号), set explicit targets: by 2025, PUE for data centers at national hub nodes must fall below 1.25, and for newly built large and above data centers, PUE must fall below 1.30. Cities such as Beijing have already imposed punitive electricity pricing on data centers with PUE exceeding 1.35. The 2024–2025 Action Plan for Energy Conservation and Carbon Reduction (国发〔2024〕12号) further designates data centers as a key sector for energy savings and carbon reduction.

Operators need an actionable compliance framework. Communities need definitive assurance that their resources and livelihoods are protected. The Community Data Center Standard is designed precisely for this purpose.

II. Our Solution: Five Pillars

Pillar	Core Requirements	Key Metrics
1. Energy Accountability	Grid-impact neutral; ≥80% green electricity within the same grid region; ≥50% additionality in generation; compliant with GB 40879-2021 energy efficiency grades	PUE ≤ 1.30 (Grade 2); hub node PUE ≤ 1.20 (Grade 1)
2. Water Stewardship	100% water balance replenishment in local watersheds; WUE ≤ 1.0 L/kWh; full PFAS disclosure, quarterly monitoring, and PFAS-free transition	WUE, PFI (PFAS-Free Index)

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3. Waste Heat Utilization	≥60% waste heat capture; ≥50% community allocation (where climatically applicable); liquid cooling for ≥50% of IT load (using PFAS-free coolants)	CHI (Community Heat Index)
4. Community Economic Benefits	≥2% of gross revenue contributed to a community benefit fund; ≥40% local employment (within a 50 km radius); utility rate protection	CBI (Community Benefit Index), LER (Local Employment Ratio)
5. Transparency & Accountability	Real-time public dashboard (regulatory platform reporting for CII facilities); annual independent audit under China Standards on Auditing (CSA); community monitoring positions	11 real-time metrics

III. Three Compliance Tiers

Tier	Community Benefit Fund	PUE	Renewable Energy	Waste Heat Allocation	Audit
Tier 1: Community Committed	≥1%	≤ 1.30 (GB 40879 Grade 2)	—	Assessment + Roadmap	—
Tier 2: Community Beneficial	≥2%	≤ 1.25	≥ 60%	≥ 30%	Annual CSA audit
Tier 3: Community Exemplary	≥3%	≤ 1.20 (GB 40879 Grade 1)	≥ 80% (incl. ≥50% additionality)	≥ 50%	Annual CSA audit + PFAS remediation escrow fund

IV. Alignment with China's National Strategies

National Strategy	How This Standard Delivers
"Dual Carbon" Goals (Peak Carbon 2030, Carbon Neutrality 2060)	PUE optimization pathways and green electricity integration strategies directly reduce carbon emissions.

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"East Data, West Computing" Project	Designed specifically for western provinces rich in renewable energy — such as Yunnan, Guizhou, and Sichuan — embedding community benefit safeguards.
"New Quality Productive Forces"	Achieves higher-quality intelligent computing output with fewer resource inputs, actively supporting the national cultivation and development of "New Quality Productive Forces."
GB/T 44989-2024 Compliance	Directly maps to China's first national standard for green data center evaluation.

V. Key Innovations in China Localization

This China Edition is not a simple translation of the original English version; it has undergone systematic legal and governance localization:

1. Community Benefit Agreements (CBA) → Chinese Statutory Mechanisms: Adapted to China's context, CBAs are implemented through a combination of social stability risk assessment (发改投资〔2012〕2492号), special public welfare funds (Articles 46–49 of the Charity Law of the PRC), and the local government investment promotion evaluation framework.

2. Dual-Standard References: In areas where China's relevant regulations are still evolving — such as PFAS emissions — a dual "international + China" referencing strategy is adopted (international mainstream drinking water standards + GB 5749 / GB 3838).

3. CII Data Security Compliance: In accordance with Articles 27 and 31 of the Data Security Law of the PRC and the Regulations on the Security Protection of Critical Information Infrastructure (State Council Order No. 745), CII facilities use real-time reporting to authorized regulatory platforms in lieu of public dashboard disclosure.

4. Full Metrication and Alignment with Local Practices: Distance units are converted to metric (50 km). China-specific procedures — such as district heating concession licensing and Green Electricity Certificate (GEC) / green electricity trading verification — are integrated.

5. Collaborative Research Framework: During the drafting of this Standard, a multi-perspective policy interpretation framework was employed to systematically bridge international experience with China's domestic policies.

VI. Supporting Documents

Document	Purpose
Community Data Center Standard — China Edition (v0.1)	Complete five-pillar standard — Main Document
Appendix A: Cross-Reference Table — Original Standard Clauses & China Implementation Mechanisms	Item-by-item mapping of 43 changes between English v0.1 and China Edition v0.1, with full legal citations
References	10 categories, 60+ entries covering Chinese laws, GB standards, ministerial policies, and international standards

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VII. About Eternal Harmony

Eternal Harmony is an AI R&D; company, not a data center operator. We have developed this Standard to explore innovative pathways for harmonious coexistence and collaborative development between data centers and their surrounding communities — helping the industry actively fulfill its social responsibilities while achieving a win-win outcome for both economic and social benefits.

The Community Data Center Standard is a publicly released, freely accessible open framework available to all operators willing to meet these benchmarks. For technical support, please refer to the companion documents or contact us at mi@eternalharmony.ai.

Standards Hub: eternalharmony.ai/research/harmonize-data-centers
This China Edition: eternalharmony.ai/research/harmonize-data-centers/china
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