Community Data Center Standard

Original Framework — Five-Pillar Compliance Standard

Version 0.1.1 • June 2026

Eternal Harmony AI

The Community Data Center Standard

Version 0.1.1, Revised June 2026 — Draft Framework

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> "Green, ethical data centers with built-in automatic give-back to the community — ongoing, transparent." — Eternal Harmony AI

Preamble

The data center industry is entering a critical phase of transformation. While technology advances rapidly, the sector faces an important imperative: deepening community trust and achieving genuinely sustainable integration with host communities. Between May 2024 and June 2025, data center projects worth over $162 billion in the United States were delayed or shelved due to community concerns. Communities around the world are raising expectations for water stewardship, energy accountability, environmental quality, and local economic benefit — calling for the industry to build fairer, more transparent benefit-sharing mechanisms.

The technology for greener data centers exists. What the industry needs is a credible, enforceable, transparent framework that enables data centers to achieve genuine win-win development with their host communities — through structural mechanisms built into the facility's design, financing, and operations.

This is that framework.

Part I: Core Principles

1. Community First, Not Community Last

The host community is a stakeholder, not an obstacle. Benefit to the community is not a concession to be negotiated down — it is a design requirement equal in priority to uptime, efficiency, and profitability.

2. Structural, Not Voluntary

Every community benefit mechanism in this standard is designed to be legally binding (through Community Benefit Agreements), built into facility design (waste heat capture, renewable integration), and continuously measured (real-time public dashboards). Voluntary pledges are not compliant.

3. Local Impact, Local Benefit

Water offsets in another state do not mitigate water depletion here. Renewable energy certificates from already-built solar farms do not reduce carbon on this grid. Every offset, mitigation, and benefit must be measurable at the local level — the same watershed, the same grid region, the same community.

4. Transparent by Default

All community-relevant metrics are published in real-time to a public dashboard that any community member can access. Annual audits by independent third parties are mandatory. There are no trade secrets in community impact.

5. Automatic and Ongoing

Community benefit is not a one-time payment. It flows continuously throughout the facility's operational lifetime through structural mechanisms (revenue sharing, heat distribution, utility rate offsets) that operate automatically without requiring annual renegotiation or corporate goodwill.

Part II: The Five Pillars

Pillar 1: Energy Accountability

Objective: The data center's energy consumption does not increase costs, reduce availability, or increase carbon emissions for the host community.

Requirement	Standard	Measurement
Grid Impact Neutrality	DC operation does not increase residential electricity rates in its service territory	Annual comparison: rates before/after DC activation; DC pays difference if rates increase
True Renewable Sourcing	Minimum 80% of energy from renewable sources on the same regional grid, verified hourly (not annual RECs)	Hourly energy source tracking via grid operator data or on-site monitoring

Requirement	Standard	Measurement
New Generation Requirement	Minimum 50% of renewable energy sourced from facilities built after the DC was planned (additionality)	PPA contract dates compared to DC planning timeline
On-Site Generation	Minimum 20% of energy from on-site or directly-connected renewable generation	Metered on-site generation / total consumption
Energy Efficiency	PUE ≤ 1.3 (annual average)	Continuous monitoring, independently audited quarterly

Timeline: Full compliance within 3 years of initial operation. Interim targets: 50% renewable Year 1, 65% Year 2, 80% Year 3.

Pillar 2: Water Stewardship

Objective: The data center does not deplete, contaminate, or compete for local water resources.

Requirement	Standard	Measurement
Local Watershed Balance	100% of water consumed must be restored to the same local watershed within the same calendar year	Water utility intake records vs. verified local watershed restoration
WUE Threshold	Water Usage Effectiveness ≤ 1.0 L/kWh (annual average)	Continuous monitoring
Water Stress Assessment	If located in a water-stressed region (per WRI Aqueduct), must use air-cooled or closed-loop cooling only (no evaporative/once-through)	WRI assessment + cooling system documentation
No Competition	DC water intake must not reduce water availability for residential, agricultural, or ecological use	Annual hydrological impact assessment by independent party
Recycling Minimum	Minimum 80% of process water recycled on-site	Water flow monitoring
PFAS Disclosure & Monitoring	Full public disclosure of all PFAS-containing substances used on-site (cooling fluids, fire suppression, coatings). Quarterly testing of wastewater discharge, stormwater runoff, and downgradient groundwater for PFAS	Published PFAS inventory; lab reports from accredited testing facility

Requirement	Standard	Measurement
PFAS Discharge Standard	Facility wastewater must not exceed EPA drinking water MCLs for PFAS (currently 4 ppt for PFOA/PFOS) before discharge to any waterway or wastewater system	Quarterly laboratory analysis of discharge points
PFAS-Free Transition	New facilities must use PFAS-free cooling and fire suppression where technically feasible. Existing facilities must publish a PFAS elimination plan with target dates	PFAS inventory trend; transition plan milestones

Pillar 3: Waste Heat Utilization

Objective: The data center's waste heat is a community resource, not an environmental burden.

Requirement	Standard	Measurement
Heat Capture	Minimum 60% of waste heat captured at usable temperatures (≥ 40°C)	Temperature and flow monitoring at capture points
Community Heat Distribution	Captured waste heat delivered to community use (district heating, agriculture, public buildings, industrial processes) — graduated by tier: ≥ 30% (Tier 2), ≥ 50% (Tier 3)	Metered heat delivery to offtakers
Heat Offered First	DC must make waste heat available to the community at below-market rates before venting to atmosphere	Published heat availability offer; community right of first refusal
Liquid Cooling Pathway	New facilities must implement liquid cooling for ≥ 50% of IT load to enable high-temperature heat recovery. Cooling fluids must be PFAS-free (non-fluorinated dielectric fluids, water-based systems, or synthetic hydrocarbons)	Cooling system design documentation; coolant material safety data sheets
Public Heat Dashboard	Real-time display of heat capture, distribution, and utilization	Public-facing monitoring dashboard

Note: In climates where district heating demand is seasonal, the standard recognizes seasonal variation. Distribution targets are measured as annual averages. DCs are incentivized to locate near year-round heat consumers (agriculture, industrial, aquatic).

Pillar 4: Community Economic Benefit

Objective: The host community receives ongoing, measurable economic benefit that exceeds the costs and burdens of hosting the data center.

Requirement	Standard	Measurement
Community Benefit Fund	Minimum 2% of gross facility revenue deposited annually into a Community Benefit Fund governed by a community board	Audited financial statements
Local Employment	Minimum 40% of permanent operations staff and 60% of construction workforce hired from the local community (within 30-mile radius)	Payroll records, ZIP code verification
Skills Training	DC-funded technical training program accessible to all community residents, minimum capacity of 50 students/year per 100 MW of facility capacity	Program enrollment and completion records
Utility Rate Protection	If local residential electricity rates increase due to DC-related grid investment, the DC pays the increase for all residential customers in its service territory	Regulatory filing comparison + DC payment records
Tax Transparency	Full annual public disclosure of all tax incentives, abatements, and subsidies received, along with taxes actually paid	Published annual report
Incentives Linked to Verified Community Outcomes	Tax incentives and industrial support received by the DC shall be linked to independently audited community benefit outcomes established through a binding CBA	CBA documentation filed with municipality; audit reports
Property Value Guarantee	If property values within 1 mile decline due to DC externalities, DC compensates affected homeowners	Independent appraisal comparison (before/after)

Community Benefit Fund Governance: - Board: 5-7 members — majority community residents, at least one municipal representative, one DC representative - Decisions by majority vote - Annual public reporting on fund allocation - Eligible uses: education, infrastructure, environmental restoration, community services, emergency services, local business grants

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Pillar 5: Transparency & Accountability

Objective: The community has full, real-time visibility into the data center's impact and benefits, verified by independent parties.

Requirement	Standard	Measurement
Public Dashboard	Real-time, internet-accessible dashboard showing: energy source, PUE, water consumption, waste heat utilization, community fund balance, employment stats, environmental metrics	Dashboard uptime ≥ 99.5%; data latency ≤ 1 hour
Independent Audit	Annual comprehensive audit by accredited third party covering all five pillars	Published audit report
Community Monitoring	DC funds 1–2 full-time community monitoring positions; monitors have facility access for environmental verification	Employment records; access logs
Grievance Mechanism	Formal process for community members to raise concerns, with mandatory response within 30 days (expedited for health, safety, or environmental concerns as defined in the CBA)	Grievance log with resolution tracking
Expansion Consultation	Any expansion > 20% of original capacity requires community consultation process (minimum 90-day public comment period; timeline may be adjusted by mutual agreement in the CBA based on scope and urgency)	Filed consultation records

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Part III: Compliance Tiers

Recognizing that not all facilities can achieve full compliance immediately, the standard defines three tiers:

Tier 1: Community Committed (Entry Level)

- Binding CBA in place - Public dashboard operational - Community Benefit Fund established at ≥ 1% of revenue - PUE ≤ 1.4 - Water stress assessment completed - Waste heat assessment completed with utilization roadmap - Local employment targets established - PFAS inventory completed and published - Pre-construction PFAS baseline testing of soil and groundwater

Tier 2: Community Beneficial (Operating Standard)

- All Tier 1 requirements, plus: - Community Benefit Fund at ≥ 2% of revenue - PUE ≤ 1.3 - ≥ 60% renewable energy (same-grid, hourly verified) - WUE ≤ 1.5 L/kWh - ≥ 30% waste heat to community use - Local employment targets being met - Independent annual audit - Quarterly PFAS discharge monitoring active - PFAS-free transition plan published (if PFAS currently in use)

Tier 3: Community Exemplary (Gold Standard)

- All Tier 2 requirements, plus: - Community Benefit Fund at ≥ 3% of revenue - PUE ≤ 1.2 - ≥ 80% renewable energy with ≥ 50% additionality - WUE ≤ 1.0 L/kWh - ≥ 50% waste heat to community use (or 100% if climate permits) - Property value guarantee in place - Utility rate protection active - Community monitoring positions funded - Expansion consultation process formalized - PFAS-free operations achieved (all cooling fluids and fire suppression PFAS-free) - PFAS remediation escrow fund established

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Part IV: Implementation Mechanisms

Legal

1. Community Benefit Agreement (CBA) — binding contract between DC operator and community coalition 2. Municipal Ordinance — local government requires CBA compliance as condition for zoning/permitting 3. State Regulatory Framework — state conditions tax incentives and utility rate treatment on standard compliance

Technical

1. Public Dashboard Platform — open-source monitoring and reporting platform (potential for Eternal Harmony to develop) 2. Monitoring Infrastructure — sensors, meters, and data collection integrated into facility design 3. Heat Distribution Infrastructure — pipes, heat exchangers, and connections designed into facility from day one

Financial

1. Community Benefit Fund — legally structured fund with community governance 2. Third-Party Audit — accredited auditors for annual compliance verification 3. Certification Fees — standard operates on certification revenue (assessment, annual renewal, dashboard hosting)

Part V: Metrics Index

Required Metrics (Reported Real-Time on Public Dashboard)

Metric	Unit	Target
PUE (Power Usage Effectiveness)	Ratio	⩽ 1.3
CUE (Carbon Usage Effectiveness)	kgCO /kWh	As low as possible, reported
WUE (Water Usage Effectiveness)	L/kWh	⩽ 1.0
ERE (Energy Reuse Effectiveness)	Ratio	⩽ 0.8
REF (Renewable Energy Factor)	%	⩾ 80%
CHI (Community Heat Index) — NEW	% of waste heat to community	⩾ 30% (Tier 2) / ⩾ 50% (Tier 3)
LWR (Local Water Restoration) — NEW	% restored to local watershed	100%
CBI (Community Benefit Index) — NEW	$ benefit / $ revenue	⩾ 2% (direct fund)
LER (Local Employment Ratio) — NEW	% local employees	⩾ 40% operations
ECI (Energy Cost Impact) — NEW	$ rate change attributable to DC	$0 (no increase to residents)
PFI (PFAS-Free Index) — NEW	% of operations using PFAS-free alternatives	100% (PFAS-free)

Part VI: Who This Framework Serves

Stakeholder	How They Use This Standard
Communities	Demand CBA compliance; monitor dashboard; vote on fund allocation
Municipalities	Require compliance via zoning/permitting; template CBA clauses
State Regulators	Condition incentives on compliance; model rate-class legislation

Stakeholder	How They Use This Standard
DC Operators	Reduce opposition risk; attract ESG-conscious clients; differentiate brand
DC Investors	De-risk investments; demonstrate ESG compliance to LPs
Cloud Customers	Choose providers that meet the standard; report responsible cloud usage
Eternal Harmony	Publish, consult, certify, develop technology platform

Part VII: Enhancements Beyond Current Practice

This standard builds upon existing industry practice with additional, higher-standard enhancements:

Current Baseline	This Standard's Enhancement
Voluntary pledges	Binding Community Benefit Agreements
Annual RECs	Hourly same-grid renewable verification
Global water offsets	Local watershed restoration
PUE-only reporting	11-metric real-time dashboard
Corporate CSR reports	Independent third-party audit
Standard tax incentive frameworks	Incentives linked to verified community outcomes
Employment projections	Verified local employment with community monitoring
Heat vented to atmosphere	Heat distributed to community
Traditional site management	Community as governance stakeholder

Version History

Version	Date	Changes
0.1	April 2026	Initial draft framework — research compiled, five pillars defined, metrics proposed
0.1.1	June 2026	Added PFAS (forever chemicals) requirements to Pillar 2, Pillar 3, Metrics Index, and Compliance Tiers

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