Supplementary Technical Analysis

CIDC Smart Computing Ecosystem Expansion Pathways

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Eternal Harmony AI

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Expansion Pathways for the CIDC Smart Computing Industry Ecosystem

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Foreword

Eternal Harmony AI has long been dedicated to exploring systemic solutions for the harmonious coexistence of technology infrastructure, artificial intelligence, and human communities. Upon learning of CIDC's Smart Computing Industry Initiative and the "2026 China Smart Computing Industry Ecosystem Development Annual Conference" roadshow, we recognized a strong alignment: your Committee's deep engagement in the smart computing ecosystem, computing power networks, and green low-carbon development resonates closely with our core focus on collaborative human-AI frameworks and sustainable infrastructure.

At the same time, we note that while our standard is well-grounded in physical infrastructure and community governance, there remains room for deeper alignment and development in computing power networks, the differentiation between intelligent and general-purpose data centers, compute-power coordination, the ODCC standards ecosystem, and carbon market pathways — all areas where your Committee has deep expertise.

This supplementary analysis addresses five core technical gaps and one strategic talent direction with preliminary adaptation pathways. Through this document, we aim to share not just a standard text, but a working methodology — one that leverages a multi-model collaborative research framework to interpret complex policy documents from multiple angles, identify key intersections, and bridge international experience with China's domestic policy landscape in actionable ways.

I. Computing Power Network (算力网络): Community Data Centers as Edge Nodes

Current Landscape

China is building a nationally integrated computing power network. ODCC (Open Data Center Committee) has established an Edge Computing Working Group and recently released the Cloud-Edge Collaborative AI Network Technology White Paper (ODCC2504001), explicitly identifying edge computing cluster networks and cloud-edge collaboration as key technical directions for AI large model training and inference. In early June 2026, the

China Academy of Information and Communications Technology (CAICT) further launched the development of "Computing Power Cluster Token Evaluation Series Standards," signaling a transition from infrastructure-level measurement to service-oriented (tokenized) computing power. Concurrently, the convocation of the "City Computing Power Network" seminar indicates that computing networks are extending from national hub nodes to city-level edge deployments.

Adaptation Pathways

The Standard's distributed community governance model shares a natural structural resonance with the edge architecture of computing power networks:

Computing Network Tier	Corresponding Mechanism in the Standard
National hub nodes (Inner Mongolia, Guizhou, etc.)	Regional energy accountability and cross-community coordination mechanisms
Provincial / city computing network nodes	Community Data Center local governance committees
Edge inference nodes	Community benefit sharing agreements and local employment commitments

Recommended Extensions:

- Add a "Computing Power Network Edge Node Governance" sub-clause to Chapter 4 (Community Accountability) of the Standard, clarifying the role and responsibilities of community DCs as terminal nodes in city computing networks; - Reference the ODCC Cloud-Edge Collaborative AI Network Technology White Paper and CAICT Token Evaluation Framework to situate community DC edge positioning within the national computing power network planning discourse.

II. Intelligent Computing Centers vs. General-Purpose Data Centers: Differentiated Community Impact Assessment

Current Landscape

The very name of CIDC contains "Smart Computing" (智算), highlighting your Committee's core concerns beyond traditional general-purpose data centers. Research shows significant differences between intelligent computing centers and general-purpose DCs across the following dimensions:

Dimension	Intelligent Computing Center (AI Training/Inference Clusters)	General-Purpose Data Center
Per-rack power density	20 – 40 kW (NVIDIA DGX systems may exceed 40 kW)	5 – 10 kW

Dimension	Intelligent Computing Center (AI Training/Inference Clusters)	General-Purpose Data Center
Cooling approach	Primarily liquid cooling (cold plate, immersion); high water intensity	Primarily air cooling (CRAC/CRAH); lower water intensity
Employment structure	Fewer, high-skill positions (AI engineers, system architects)	More, mid-to-entry-level positions (operations, customer service)
Policy positioning	Recognized under the national "New Quality Productive Forces" (新质生产力) initiative; eligible for special subsidies	Foundational information infrastructure; subject to energy quota limits

Under the "East Data West Computing" (东数西算) framework, AI training workloads from intelligent computing centers can be migrated to western hubs, but inference workloads must remain in the east due to latency requirements. This means a single community may simultaneously host training-oriented and inference-oriented computing — their community impacts cannot be addressed uniformly.

Adaptation Pathways

The Standard's five-pillar governance framework already provides the foundation for differentiation by data center type:

- Energy Accountability pillar: Can set stricter PUE targets for intelligent computing centers (e.g., PUE ≤ 1.2 for new intelligent computing projects, referencing GB 40879-2021 and local policy requirements) and higher renewable energy matching ratios; - Water Stewardship pillar: Can establish specialized water quality and consumption management requirements for liquid-cooled intelligent computing centers (ODCC has already released the Data Center Water Quality Management Technical Report 2024ODCC-02004); - Community Benefit Sharing pillar: Can differentiate employment commitments and local talent development mechanisms between intelligent computing centers (fewer, high-skill positions) and general-purpose DCs (more, mid-level positions).

Recommended Extensions:

- Add a "Data Center Type Classification" clause to the Standard, requiring community DCs to specify their functional type during the planning phase and apply differentiated management requirements accordingly; - Reference the NDRC et al. Action Plan for High-Quality Development of Computing Infrastructure (发改数据〔2023〕1023号) for specific requirements applicable to intelligent computing centers.

III. Compute-Power Coordination (算力-电力协同): Deep Integration with the Energy Accountability Pillar

Current Landscape

"Compute-Power Coordination" is a core supporting mechanism of the East Data West Computing project and a key topic within CIDC's smart computing industry ecosystem. The main policy trajectory is as follows:

- Source-Grid-Load-Storage Integration: Hub nodes in Inner Mongolia, Ningxia, Gansu, Guizhou, and elsewhere are implementing "computing + renewable energy" bundled models, requiring data centers to match specific proportions of renewable energy (e.g., new DCs in western hub nodes must achieve ≥60% green electricity consumption, per NDRC's 2023 Implementation Opinions on Building a Nationally Integrated Computing Power Network); - Demand-Side Response: Data centers are being incorporated into city "virtual power plant" resource pools (piloted in Shenzhen and Suzhou), voluntarily reducing load during community peak electricity demand periods in exchange for subsidies; - Carbon Emission Responsibility Allocation: NDRC is piloting a "Computing Power Carbon Emission Accounting Methodology" (2024 draft for comments), proposing to allocate data center carbon emissions to eastern consuming cities based on computing service flows, promoting east-west shared responsibility for energy transition costs.

Adaptation Pathways

The Standard's Energy Accountability pillar already provides a natural interface for compute-power coordination:

Existing Standard Mechanism	Compute-Power Coordination Extension
Renewable energy procurement commitments	Connect to "Green Electricity Parks" and Green Electricity Certificate trading mechanisms; establish phased green electricity percentage targets
Community energy impact assessment	Introduce a "demand response participation rate" indicator to evaluate DC contributions to community grid peak-valley regulation
Public energy efficiency reporting	Add a "compute-power matching ratio" disclosure requirement to measure carbon emission intensity per unit of computing power

Recommended Extensions:

- Add a "Compute-Power Coordination" special clause to the Energy Accountability pillar, requiring community DCs to submit grid carrying capacity assessments during site selection and commit to participating in local demand response and virtual power plant dispatch; - Reference MIIT's Three-Year Action Plan for New Data Center Development and the National Energy Administration's Electricity Load Management Measures (2024 Edition) regarding adjustable load requirements for data centers.

IV. ODCC Standards Ecosystem: Alignment and Mutual Recognition Pathways

Current Landscape

ODCC, as China's most authoritative industry standards organization in the data center field, has established a full-stack working group system covering servers, data center facilities, networking, edge computing, new technologies and testing, intelligent operations, and storage technology. Its three major evaluation systems — Green Level Assessment, Computing Power Level Assessment, and Low-Carbon Level Assessment — have become industry-standard benchmarks.

ODCC's recent developments — such as the "Super Node" interconnect architecture technical specification (ODCC2504002) and the cold plate liquid cooling superfluid technical specification (ODCC2504004) — all point toward the high-density, high-efficiency demands of intelligent computing scenarios. Additionally, ODCC's "Zero-Carbon Computing Co-Building Initiative" is closely connected to CCER carbon credit pathways.

Adaptation Pathways

The Standard is positioned not to compete with ODCC standards, but to complement and interface with the ODCC standards system:

ODCC System	Standard Alignment Direction
Green Level Assessment	Reference ODCC Green Level as a benchmark for community DC energy accountability
Low-Carbon Level Assessment / Zero-Carbon Computing Initiative	Align community DC carbon management pathways with ODCC low-carbon assessment processes
Edge Computing Working Group	Establish mutual recognition between community DC edge node governance and ODCC edge computing standards
Computing Power Level Assessment	Incorporate community DC computing output into the ODCC rating system to enhance credibility

Recommended Extensions:

- Add relevant ODCC technical white papers and assessment standards to the Standard's bibliography; - Propose a cooperative intent to establish a "Community Data Center Specialized Assessment" sub-category with ODCC.

V. Carbon Market and CCER Pathways: Carbon Credit Prospects for Data Centers

Current Landscape

As of early 2025, China's national China Certified Emission Reduction (CCER) market, restarted in October 2023, has approved four batches of methodologies, but does not yet include a data center-specific methodology. Data centers can currently participate in carbon reduction through the following pathways:

Pathway	Mechanism
Green electricity trading (Green Certificates)	Direct purchase of wind/solar PPAs to obtain Green Electricity Certificates, reducing Scope 2 carbon footprint
CCER purchasing	Purchase carbon credits from approved project types (e.g., offshore wind CCERs) for offsetting
Carbon Inclusive (碳普惠)	Participate in local carbon inclusive programs in Beijing, Shenzhen, and elsewhere to earn small-scale offset credits
Green Data Center Certification	Pass MIIT's Green Data Center assessment for priority access to energy quotas and policy benefits

Key window: The Ministry of Ecology and Environment (MEE) is expected to release the third batch of CCER methodologies in 2025–2026, with "data center energy conservation" likely to be included. The national Emissions Trading Scheme (ETS) Phase III (2026–2030) also plans to include data centers under mandatory coverage (a threshold of >26,000 tCO /year is under discussion).

Adaptation Pathways

The Standard's Community Benefit Sharing pillar naturally encompasses the possibility of carbon credit allocation mechanisms:

- Carbon credit community attribution: Carbon credits (CCER or carbon inclusive credits) generated through data center energy conservation can be allocated proportionally to the host community, forming a closed loop of direct community benefit; - Carbon accounting transparency: Community DC carbon emission accounting and reduction performance can serve as publicly available data items for community oversight, enhancing community trust.

Recommended Extensions:

- Add a "Carbon Credit Community Allocation" clause to the Community Benefit Sharing pillar, specifying the community sharing ratio for DC carbon credit revenues; - Monitor

MEE's third batch CCER methodology developments and align the Standard's community carbon credit allocation mechanism with the data center-specific methodology once published.

VI. AI & Neurodiversity Collaboration: Strategic Talent Pathways for Community Data Centers

Current Landscape

"New Quality Productive Forces" (新质生产力), as a core economic policy direction for China, is fundamentally about unlocking innovative potential that has been previously underdeveloped. Amid rapid expansion of AI and computing infrastructure, one dimension remains insufficiently discussed: who will operate these facilities? Which cognitive styles are best suited for deep collaboration with AI systems?

Neurodiversity — encompassing ADHD, Autism Spectrum (ASD), atypical cognitive processing modes, and other cognitive configurations — is gaining increasing attention in the technology sector. SAP China's "Autism at Work" program has recruited approximately 30 neurodivergent employees in software testing and data analysis roles since 2019. Microsoft's global neurodiversity hiring initiatives have similarly demonstrated the operational advantages of neurodivergent talent in technical roles. CAICT's 2023 "AI+Accessibility Development Research Report" also examines inclusive talent development pathways in the AI field, providing a supporting framework for incorporating neurodivergent individuals into the AI industry's talent strategy.

On the policy front, China's Barrier-Free Environment Construction Law (无障碍环境建设法), effective September 2023, established legal requirements for information accessibility and workplace reasonable accommodations for the first time. Shenzhen and other cities have launched pilot programs for AI-assisted talent capability matching.

Neurodivergent talent strategies are highly aligned with the development goals of "New Quality Productive Forces" (新质生产力) and "AI+" (人工智能+); proactively exploring this intrinsic connection can open unique opportunities for early exploration.

Innate Strengths of Neurodivergent Populations

Trait	Relevance to Data Center & AI Operations
Pattern recognition	High-precision anomaly pattern recognition and system defect detection

Trait	Relevance to Data Center & AI Operations
Hyperfocus	Extended deep operations sessions, complex fault diagnosis — driven by intrinsic motivation rather than external directives
Non-linear systems thinking	Data center architecture design, energy efficiency optimization — finding connections among seemingly unrelated variables
Innovative problem-solving	Root-cause analysis and innovative problem-solving for complex technical challenges

A Key Insight

The driving force for many neurodivergent individuals is not salary or title, but intrinsic meaning. When work content resonates with inner values, engagement and output quality can far exceed what traditional incentive models produce.

This dynamic is particularly pronounced in green computing and harmonious solutions — domains whose core values (sustainability, systems thinking, community wellbeing) naturally align with the intrinsic motivations of many neurodivergent individuals, creating a dual resonance at both cognitive and values levels. This means that identifying and gathering such talent is not merely about finding the right "brains" but also about finding those who share the mission — adding another multiplicative layer to the quality and depth of AI-human collaborative output.

Research indicates that in well-adapted AI collaboration environments, neurodivergent individuals can unleash distinctive creativity in high-complexity domains such as AI infrastructure development and sustainable standards formulation (such as this Standard). This model of "meaning-driven" work and "deep human-AI complementarity" demonstrates the potential of human-AI collaboration in advancing productivity — enabling talent to perform at their highest level in their areas of strength through technological adaptation.

Adaptation Pathways

As a new type of computing infrastructure situated closer to communities, community data centers possess inherent structural advantages for identifying and aligning with exceptional neurodivergent operators — a path that large centralized DCs are less naturally positioned to pursue:

- Workplace environment design: Community DCs, with their moderate scale, can more readily implement sensory-friendly design (noise reduction, adjustable lighting, flexible workstations), lowering workplace barriers for neurodivergent employees; - AI-assisted operations: Leveraging AI monitoring and automation tools, repetitive and linear tasks can be handled by AI, freeing neurodivergent employees to focus on their strengths in pattern recognition and innovative thinking. AI assumes the "linear organization" role while neurodivergent employees exercise "non-linear association" — this is the optimal division of labor in human-AI collaboration; - Community talent development: Partner with local educational institutions to establish data center skills training programs tailored for ADHD/ASD populations, creating employment pathways for the community; - Methodology transfer: Multi-model parallel scheduling, non-linear research workflows, and cross-domain correlation analysis — AI-assisted working methods developed through neurodivergent-AI cognitive collaboration — can be directly migrated to the collaboration frameworks of data center operations teams, improving overall operational efficiency.

Recommended Extensions

- Recognize in the Standard's operational framework that neurodivergent-AI collaborative pairings represent a distinct strategic capability: neurodivergent cognitive patterns — pattern recognition, non-linear systems thinking, sustained hyperfocus — complement AI systems in ways that are multiplicative rather than additive, enabling operational outcomes that are difficult to achieve through conventional staffing models alone; - Encourage community DCs to develop talent identification pathways attuned to the specific strengths neurodivergent individuals bring to AI-augmented infrastructure operations, creating access to an overlooked pool of exceptional operators; - Propose that your Committee consider a dedicated examination of "AI-Neurodivergent Collaborative Operations" as a strategic workforce topic — exploring how community data centers can build operational teams whose cognitive diversity and AI complementarity produce precision at velocity.

Conclusion

This report is intended to provide a preliminary analytical framework and adaptation direction; the topics raised merit continued deeper investigation. We look forward to your Committee's feedback and guidance.

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