Quarlex: The Fuel for Intelligence
重新定义智能的燃料

Executive Summary | 执行摘要

Quarlex is the world's first Energy-Compute Nexus, a decentralized infrastructure layer that transforms stranded green energy into verifiable, liquid AI compute assets. By bridging the gap between energy-surplus regions (like Northwest China) and compute-deficit hubs (like Singapore and the US), Quarlex is building the "AI Carbon-Neutral Bank" for the 21st century.

Quarlex is building the "Global Energy-Compute Nexus" — a decentralized, asset-backed infrastructure that transforms idle, underutilized energy into the universal currency of the AI economy: Verifiable Green Compute. We are not just trading resources; we are reshaping the global intelligent supply chain, ensuring the next trillion-dollar AI breakthroughs are powered by sustainable, transparent, and inclusive energy.

Quarlex 是全球首个能源-算力枢纽。作为一个去中心化的基础设施层，我们将闲置的绿色能源转化为可验证、高流动性的 AI 算力资产。通过连接能源盈余地区（如中国西北）与算力紧缺中心（如新加坡和美国），Quarlex 正在构建 21 世纪的 “AI 碳中和银行”。

Quarlex 正在构建的 “全球能源-算力枢纽” (The Global Energy-Compute Nexus) 是一个去中心化、资产背书的基础设施，将全球未被充分利用的能源，转化为 AI 经济的通用货币：可验证的绿色算力。我们不仅仅是交易资源；我们正在重塑全球智能供应链，确保下一个万亿美元的 AI 突破，由可持续、透明且普惠的能源驱动。

Market Background & Data | 市场背景与数据支撑

The explosion of Generative AI has created an unprecedented "Energy-Compute Gap." According to the International Energy Agency (IEA), data center electricity consumption is projected to double by 2030, reaching approximately 945 TWh [1]. Goldman Sachs further estimates that AI will drive a 175% surge in data center power demand by 2030 compared to 2023 levels [2].

生成式 AI 的爆发创造了前所未有的“能源-算力缺口”。根据国际能源署 (IEA) 的预测，到 2030 年，数据中心的耗电量将翻倍，达到约 945 TWh [1]。高盛 (Goldman Sachs) 进一步估计，到 2030 年，AI 将推动数据中心电力需求较 2023 年水平激增 175% [2]。

Metric	2023 Level	2030 Projection	Growth
Global Data Center Power	~460 TWh	~945 TWh	105%
AI CapEx Spending	~$150B	~$1.6T	960%
Stranded Green Energy	High	Increasing	Critical Opportunity

The Problem | 核心问题

The explosive growth of AI faces two unsustainable bottlenecks:
1.Energy Crisis: Global 40% of data center power comes from fossil fuels. AI's carbon footprint is becoming a major barrier to ESG investment and climate goals.

2.Compute Scarcity: Top-tier GPU resources are monopolized by a few giants at high costs. Meanwhile, vast amounts of green energy like "curtailed wind and solar" are wasted globally due to grid constraints.

AI 的爆炸式增长面临两大不可持续的瓶颈：
1.能源危机 (Energy Crisis): 全球 40% 的数据中心电力来自化石燃料。AI 的碳足迹正在成为 ESG 投资和气候目标的巨大障碍。

2.算力稀缺 (Compute Scarcity): 顶级 GPU 资源被少数巨头垄断，且价格高昂。同时，全球有大量“弃风弃光”等绿色能源因地理限制无法并网，被白白浪费。

The Solution: RWA + DePIN | 我们的解决方案

Quarlex creates a unique RWA (Real-World Asset) + DePIN (Decentralized Physical Infrastructure Network) model to turn problems into opportunities:
Quarlex 独创 RWA (真实世界资产) + DePIN (去中心化物理基础设施网络) 模型，将问题转化为机遇：

机制 (Mechanism)	描述 (Description)	价值 (Value)
能源锚定 (Energy Anchoring)	在全球能源冗余地区（如中国西北、冰岛、南美）部署算力节点，实时监测其消耗的绿色电力。 (Deploy compute nodes in energy-surplus regions (NW China, Iceland, etc.) to monitor green power consumption in real-time.)	将“浪费”转化为“价值”，解决了能源消纳问题。 (Transforms "Waste" into "Value", solving energy curtailment.)
QLX 代币化 (QLX Tokenization)	实时将能源消耗转化为 QLX (Quarlex Token)。QLX 是全球首个能源锚定的算力资产。 (Convert energy consumption into QLX (Quarlex Token), the world's first energy-anchored compute asset.)	提供了价格稳定、可交易、可审计的绿色算力凭证。 (Provides Price-stable, Tradable, and Auditable green compute credits.)
CEE 指数 (CEE Index)	引入 “算力-能源效率指数” (CEE Index)，标准化不同硬件的算力输出与能源消耗比，确保 QLX 成为行业定价基准。 (Introduce the Compute-Energy Efficiency (CEE) Index to standardize compute output vs. energy consumption.)	消除算力非标化，建立不可复制的技术壁垒。 (Eliminates non-standardization, building an unreplicable technical moat.)

Technical Progress: Prototype V5.8+ | 技术进展：原型论证

We have successfully validated the core "Energy-to-Value" conversion logic through our functional technical prototype. **Unlike conceptual projects**, Quarlex has a working codebase that demonstrates:

- Edge Telemetry (EON Monitor): Real-time hardware-level power monitoring (mW) and compute utilization tracking.
- Settlement Engine (QLX Core): A proprietary algorithm that converts raw energy consumption into Valor (QLX) units with high precision.
- Institutional Transparency: A live dashboard providing real-time network topology and sustainability auditing.

我们已通过功能性技术原型成功验证了核心的“能源-价值”转换逻辑。与仅停留在概念阶段的项目不同，Quarlex 拥有可运行的代码库，展示了：

- 边缘遥测 (EON Monitor)：实现实时硬件级功耗（mW）监测和算力利用率追踪。
- 结算引擎 (QLX Core)：采用专有算法，将原始能耗高精度转化为 Valor (QLX) 价值单位。
- 机构级透明度：实时仪表盘提供网络拓扑结构和可持续性审计。

Strategic Roadmap | 发展路线图

Phase	Timeline	Key Milestones	关键里程碑
Genesis	Q1-Q2 2026	Pilot deployment in NW China; HK VASP Sandbox application.	西北试点部署；申请香港 VASP 监管沙盒。
Scaling	Q3-Q4 2026	Release CEE Index Alpha; Layer-2 Smart Contract migration.	发布 CEE 指数测试版；迁移至 L2 智能合约。
Nexus	2027	Launch Singapore-GBA Corridor; Institutional Marketplace.	启动新加坡-大湾区走廊；上线机构交易市场。

The Moat: 5-Star Execution | 我们的竞争优势

We are executing a 5-Star Strategy designed to eliminate early risks and build long-term moats:
1.Regulatory Moat: Strategically selecting HK/SG for launch; seeking regulatory sandbox pre-approval to turn compliance into an entry barrier.

2.Talent Moat: Founders with business expertise; recruiting top-tier CTOs with DePIN experience using equity and asset-backed QLX tokens as core incentives.

3.Resource Moat: Focusing on low-cost green energy arbitrage; securing exclusive MOUs with data centers to lock in unreplicable supply-side advantages.

4.Demand Moat): Securing Minimum Off-take agreements with major AI labs or cloud providers prior to funding to lock in revenue.

我们正在执行一项旨在消除早期风险、建立长期壁垒的 5星级战略：

1.监管先行 (Regulatory Moat): 战略性选择香港/新加坡作为启动地，并积极寻求监管沙盒预批，将合规性转化为进入壁垒。

2.顶级团队 (Talent Moat): 创始人具备极强的商业与协作经验，并已启动招募拥有 DePIN/分布式系统经验的顶级 CTO，以股权和资产背书的 QLX 代币作为核心激励。

3.资源锁定 (Resource Moat): 聚焦于低成本绿色能源的地理套利空间，通过与数据中心签署排他性合作意向书 (MOU)，锁定不可复制的供给端优势。

4.市场锁定 (Demand Moat): 在融资前，与头部 AI 实验室或云服务商签署最低购买量 (Minimum Off-take) 协议，将潜在需求转化为已锁定收入。

The Vision | 愿景

Our ambition is to define the Compute-Energy Efficiency (CEE) Index, the global gold standard for sustainable AI infrastructure. Quarlex is not just a platform; it is the foundational layer for a sovereign, carbon-neutral AI future.

我们的雄心是定义 “算力-能源效率 (CEE) 指数”，成为全球可持续 AI 基础设施的金标准。Quarlex 不仅仅是一个平台，它是主权、碳中和 AI 未来的基石。

The Ask | 融资需求

Seeking $4-5M in Angel funding to accelerate deployment and achieve key strategic milestones:

我们正在寻求 $4-5M 的天使轮融资，以加速从 MVP 到生产环境的部署，并完成关键的战略里程碑：

资金用途 Allocation	比例 (%)	关键里程碑 (6-9个月) Key Milestones (6 - 9 months)
技术与团队 (Tech & Team)	40%	锁定顶级 CTO，完成 QLX 智能合约部署和 CEE Index 算法验证。 (Secure CTO; deploy QLX contracts; validate CEE Index.)
监管与法律 (Legal & Compliance)	30%	设立香港公司，获得监管沙盒预批，出具跨境合规法律意见书。 (Establish HK entity; get sandbox pre-approval; legal opinions.)
资源与市场 (Resource & Market)	30%	锁定首个数据中心 MOU，签署首个锚定客户购买协议（on-going）。 (Secure first DC MOU; sign first anchor tenant agreement.)

The Return | 投资回报

Investing in Quarlex is investing in the core infrastructure of the AI era. We are entering a $10B green compute market, aiming to become the central hub of a $1T global energy-compute exchange market.

Join us now to reshape the fuel for intelligence.

投资 Quarlex，就是投资 AI 时代最核心的基础设施。我们正在从一个 $100 亿 的绿色算力市场切入，目标是成为 $1 万亿 的全球能源-算力交易市场的核心枢纽。

现在加入，共同重塑智能的燃料。

Contact | 联系方式: scott@quarlex.com

Status | 项目状态: Pre-Seed / Seed Round

Launch | 启动地点: Hong Kong / Singapore (Dual-Hub Strategy)

References | 参考资料

[1]: # "IEA (2024), Electricity 2024, IEA, Paris."

[2]: # "Goldman Sachs Research (2024), AI/Data Center Power Demand: The 6 Ps driving growth."