

XCON Mining and AI Data Center

Concept white paper for a proposed campus north of Artesia New Mexico 88210 USA

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XCON proposes a campus that combines a modular Bitcoin mining farm with a separate NVIDIA GPU facility. Mining provides a controllable electrical load; AI provides infrastructure for model training, fine tuning and inference. The two businesses share a location and selected services while retaining separate computing hardware, electrical protection and operating priorities.



Campus concept visualization. The intended inventory is 40 mining installations and 40 dedicated mining transformers. Rendered architecture, turbine placement and landscape are illustrative, not a survey or construction plan.

The proposed first stage

Mining campus	AI facility
40 ANTSPACE MD5 installations	64 NVIDIA DGX B200 servers
Up to 6400 immersion miner slots	512 B200 Tensor Core GPUs
44 MW rated planning demand including dry coolers	1.1 MW proposed IT budget
40 transformers at 2600 kVA each	About 1.4 MW facility demand at assumed PUE 1.25

The resulting campus planning load is approximately 45.4 MW before shared ancillary loads and upstream losses. Site control, utility capacity, service cost, fiber routes and equipment orders remain development decisions. No land acquisition, service agreement, customer contract or generation project is represented as completed.

The Artesia location and electricity case

The proposed search area is north of Artesia in southeastern New Mexico. A ZIP code and directional description do not identify a parcel, electrical service territory, available substation capacity or legal access. Those facts must be established before the campus location and schedule can be fixed.

New Mexico offers a credible low electricity cost thesis. EIA reports a 2025 statewide industrial average of 5.85 cents per kWh, compared with 8.51 cents for the United States. The New Mexico figure is approximately 31.3 percent lower. These are historical revenue per sales averages across industrial customers, not an XCON tariff or a guaranteed price for new 45 MW service. [1]

Central Valley Electric publishes a large commercial category for loads of 1001 kW or greater. Its service territory is relevant to the Artesia area, although the exact parcel must determine the serving utility. Published rates and the cooperative's monthly fuel adjustment demonstrate why a base energy price alone cannot establish the delivered cost. The posted October 15 to November 14 2026 fuel adjustment is a debit of \$0.002271 per kWh; this temporary component must not be treated as a fixed long term rate. [2,3]

What a bankable electricity offer must include

XCON should request a written service study covering firm capacity, energization timing, voltage, upstream upgrades, contribution in aid of construction, minimum billing demand, demand ratchets, power factor charges, fuel riders, delivery and taxes. A mining curtailment agreement and a higher reliability AI supply arrangement should be evaluated separately. The retail provider and actual interconnection determine market rules; West Texas ERCOT conditions should not be assumed to govern a New Mexico parcel.

Lessons from a separate regional operation

NMMINE.COM describes an Artesia based service serving southeastern New Mexico and West Texas. Its public approach covers site and power review, hardware sourcing, coordinated installation and continuing maintenance. It emphasizes that local costs, spare capacity and upgrades vary by site. XCON adopts that assessment discipline as a useful regional reference. [4]

NMMINE is a separate operation. Its website does not establish a partnership, endorsement, supply commitment or power offer for XCON. Its stated grid connected hardware services do not substantiate the wind farm proposed in these visuals. XCON must develop and contract its own power and operating arrangements. [4]

Mining infrastructure and electrical capacity

The mining concept uses 40 ANTSPACE MD5 installations in a regular array, with one green AFC01 TF transformer positioned consistently to the left of each container. A perimeter fence, cameras and controlled vehicle gate surround the mining facility only. The AI building sits outside this mining enclosure, across a service road.

Published MD5 specification	Per unit	Forty units
Immersion miner capacity	Up to 160 S21 Imm or S21 XP Imm	Up to 6400 slots
Container operating power	1000 kW	40 MW
Dry tower operating power	100 kW	4 MW
Combined planning load	1100 kW	44 MW
Container dimensions	12.192 × 2.438 × 2.896 m	Layout requires engineering

These values follow the BITMAIN product listing. The 44 MW calculation adds the separately stated dry tower rating to container power. The listed PUE of 1.06 at 25 degrees C is an operating condition and is not added again. BITMAIN should confirm the final system boundary, miner population and cooler duty before procurement. A rack slot count is not a validated full population at every miner setting. [5]

No specific ASIC model and operating profile has been selected for the full build. Aggregate hash rate, Bitcoin production and mining revenue therefore remain unassigned. Procurement must reconcile each selected miner’s nameplate power, immersion compatibility and operating settings with the container limit.

Transformer loading

Each AFC01 TF is rated at 2600 kVA, with 34.5 kV input and 415 V output. Forty units provide 104 MVA of aggregate nameplate capacity, not 104 MW of available utility service. At an assumed 0.95 load power factor, a 1100 kW installation draws about 1158 kVA, or 44.5 percent of its dedicated transformer rating. This provides margin at the transformer level; it does not prove feeder capacity or electrical redundancy. [6]

The MD5 input range is 400 V plus or minus 5 percent, so nominal 415 V falls within its 380 to 420 V range. Voltage regulation, harmonics, grounding, protection, short circuit duty and cable sizing still require design. BITMAIN calls for transformer and switch derating above 1000 m elevation. Site elevation and desert temperature must be included in final equipment selection. [5,6]

Repeatable NVIDIA AI infrastructure

The proposed AI phase uses four identical deployment blocks. Each block has 16 DGX B200 servers across four compute racks, with four 10U servers per rack. This is an XCON planning arrangement, not a claim of NVIDIA certified SuperPOD compliance. Supporting network, storage and management racks are additional to the 16 compute racks. Rack thermal and electrical capacity must support approximately 57.2 kW of server load per compute rack. [7,8]

Measure	One server	One block	Phase one
DGX B200 servers	1	16	64
B200 GPUs	8	128	512
HBM3e memory	1.44 TB	23.04 TB	92.16 TB
Server maximum power	14.3 kW	228.8 kW	915.2 kW
Dense FP8 theoretical peak	36 PFLOPS	576 PFLOPS	2.304 EFLOPS
Dense FP4 theoretical peak	72 PFLOPS	1152 PFLOPS	4.608 EFLOPS

NVIDIA specifies eight Blackwell GPUs, 1440 GB GPU memory and about 14.3 kW maximum system usage per DGX B200. Its published FP8 value of 72 PFLOPS uses sparsity; dense performance is half. FP4 is listed as 144 PFLOPS sparse and 72 PFLOPS dense. The table uses dense arithmetic throughout and sums nameplate peaks. It does not predict tokens per second, training time or cluster efficiency. Aggregate memory is distributed across GPUs and servers, not one automatically unified memory pool. [7]

The networking concept uses 400 Gb/s InfiniBand through ConnectX 7 adapters, with a designed switching fabric and separate storage and management networks. BlueField 3 DPUs provide additional connectivity. Shared storage, switch counts, fabric topology and optical cable quantities must follow workload and failure domain requirements. [8]

What Tensor Core capability means

Tensor Cores accelerate matrix operations used by neural networks. This GPU cluster can support language model inference, fine tuning, selected training workloads, embeddings and scientific AI applications. FP4, FP8 and higher precision formats serve different accuracy and performance needs. Model size, context length, batch size, software and communication overhead determine practical capacity. Bitcoin ASIC miners cannot substitute for these GPUs.

The proposed 1.1 MW IT budget leaves 184.8 kW beyond server maximums for networking, storage and related IT. At assumed PUE 1.25, facility demand is 1.375 MW, rounded to 1.4 MW. Neither allowance is a vendor guarantee. Cooling, UPS, distribution and dedicated AI transformers are separate from the mining transformer inventory.

Wind integration and operating economics

The visual turbine reference is the Vestas V162 6.2 MW model. Published specifications include 6200 kW rated output, a 162 m rotor and a 119 m hub height option. The corresponding maximum blade tip height is about 200 m. The illustrative wind farm is outside the mining fence; its final count, parcel area, setbacks and electrical connection remain undetermined. The supplied turbine photograph is a visual reference and does not independently identify its turbine model. [9]

Rated wind output is available only under suitable conditions. At an illustrative 40 percent capacity factor, one 6.2 MW turbine averages 2.48 MW over time. About 19 turbines would match 45.4 MW of average load on that energy basis: $19 \times 6.2 \times 0.40 = 47.12$ MW. This arithmetic is not a site yield study or a continuous power solution. Wind variability, losses, curtailment and outages require hourly modeling, grid supply and an explicit reliability strategy.

Electricity sensitivity

At 45.4 MW continuously for 730 hours, the campus uses 33.142 million kWh per illustrative month. The table applies assumed effective prices to that consumption. It is a sensitivity model, not a quoted bill; using the historical statewide benchmark does not establish a tariff.

Assumed effective price	Monthly electricity cost	Annual cost at 8760 hours
4.00 cents per kWh	\$1,325,680	\$15,908,160
5.85 cents per kWh	\$1,938,807	\$23,265,684
8.00 cents per kWh	\$2,651,360	\$31,816,320

A one cent per kWh change moves modeled cost by \$331420 per month or \$3977040 per year. If the price assumption covers energy alone, demand charges, riders and other delivery costs must be added. Site lighting, shared services and upstream losses are outside the 45.4 MW basis. Renewable contracts should be modeled with their actual delivery, firming and environmental attribute terms.

Two operating businesses

Mining economics depend on hash rate, network difficulty, transaction fees, Bitcoin price, uptime and total ownership cost. AI economics depend on contracted GPU demand, utilization, realized pricing, service commitments and support cost. XCON should maintain separate profit and loss models. A dispatch controller can curtail mining when appropriate while protecting AI commitments, subject to utility terms and customer service levels. No profit, payback period or customer revenue is assumed here.

Development sequence and source register

First, secure parcel control and obtain the utility feasibility response. Confirm capacity, tariff, upgrade scope, delivery schedule and diverse fiber availability. In parallel, survey the site and investigate drainage, soils, water, heat, dust, noise and access. The campus rendering does not establish available land or approved construction.

Second, complete electrical and cooling design with separate mining and AI protection, metering and operating controls. Validate transformer placement, actual supports and cooler airflow clearance. Specify the GPU room thermal envelope, UPS ride through, recovery targets and environmental monitoring. AI access control, intrusion detection and building cameras can provide security without extending the mining fence around that building.

Third, commission one AI block and a limited mining tranche against measured acceptance criteria before repeating the design. Test sustained thermal load, network fabric, storage throughput, recovery and metering. Expand toward four AI blocks and 40 mining units only after power delivery and commercial demand support the next tranche. Wind development follows its own resource, land, environmental and interconnection studies.

Sources and calculation basis

[1] U.S. EIA Electric Power Annual Table 2.10, 2025 data, released October 21 2026

https://www.eia.gov/electricity/annual/table.php?t=epa_02_10.html

[2] Central Valley Electric rates and large commercial category

<https://www.cvecoop.org/rates>

[3] Central Valley Electric fuel cost adjustment, October 2026

<https://www.cvecoop.org/fuel-cost-adjustment>

[4] NMMINE.COM regional services and site assessment approach; separate operation

<https://nmmine.com/>

[5] BITMAIN ANTSPACE MD5 product specifications

<https://shop.bitmain.com/product/detail?pid=00020241223184356416n2Mk9dE10661>

[6] BITMAIN AFC01 TF transformer product specifications

<https://shop.bitmain.com/product/detail?pid=000202402211810258809vuzoqoo074A>

[7] NVIDIA DGX B200 specifications, dense and sparse performance footnotes

<https://www.nvidia.com/en-eu/data-center/dgx-b200/>

[8] NVIDIA DGX B200 hardware overview

<https://docs.nvidia.com/dgx/dgxb200-user-guide/introduction-to-dgxb200.html>

[9] Vestas V162 6.2 MW technical specifications

<https://www.vestas.com/en/energy-solutions/onshore-wind-turbines/enventus-platform/v162-6-2-mw>

Sources reviewed October 28 2026. Equipment aggregation, energy sensitivity, the AI rack arrangement, PUE and wind capacity factor scenarios are XCON concept calculations. These assumptions require validation through detailed design and commercial agreements.