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BITCOIN MINING FACILITY VALUATION GUIDE

A Comprehensive Framework for Buyers & Sellers

FOR BUYERS
Know what you're actually buying

FOR SELLERS
Maximize what you've built

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BitcoinMiningWorld.com

Introduction: Why This Guide Exists

Bitcoin mining facilities are among the most complex industrial assets ever traded. They sit at the intersection of real estate, energy infrastructure, high-performance computing, and volatile commodity speculation. A poorly valued deal can mean millions of dollars left on the table — or paid over it.

This guide is built for both sides of the transaction. Whether you're acquiring a facility and need to know every risk vector, or you're selling one and want to command a premium, the valuation framework is the same. What differs is how each side weaponizes the information.

> ⚠ **IMPORTANT DISCLAIMER**
> This document is educational only. It does not constitute financial, legal, tax, or investment advice. All models and ranges are illustrative. Engage qualified legal counsel, financial advisors, and technical consultants before executing any transaction.

The chapters that follow cover: the five core valuation methodologies, the 40+ diligence questions every buyer must ask, the narrative assets every seller should prepare, energy and power analysis, hardware depreciation curves, operational benchmarking, deal structure options, and red flags that kill transactions.

Chapter 1: The Five Core Valuation Methodologies

No single method determines a mining facility's value. Professional acquirers apply all five lenses simultaneously and weight them according to the specific asset profile. Here's how each works — and what each reveals.

1.1 Hash Rate Multiple ($/EH/s)

The most common quick-screen metric in the industry. Express the facility's total installed hash rate in exahashes per second and compare against recent comparable transactions.

Tier	Hash Rate Multiple	Typical Profile
Tier 1 — Premium	$25M–$45M per EH/s	Long-term PPA, modern ASICs, <5¢/kWh
Tier 2 — Standard	$12M–$24M per EH/s	Mid-gen hardware, market power rates
Tier 3 — Distressed	$3M–$11M per EH/s	Old hardware, high power, short lease
Tier 4 — Scrap/Parts	<$3M per EH/s	Damaged infrastructure, no PPA, legacy miners

Buyer Focus

- Negotiate hard if seller cites stale comps from bull market peaks
- Verify hash rate under real operating load, not nameplate specs
- Discount for hardware age — comps assume current-gen ASICs

Seller Focus

- Document all recent hash rate performance logs to justify premium
- Benchmark against public miner transaction databases (Hashrate Index, Luxor)
- Frame hash rate multiple in context of low power cost — they multiply each other

1.2 Cost Per Watt ($/W) — Infrastructure Valuation

Separates the real estate and electrical infrastructure from the mining equipment. This is the bedrock valuation floor — what would it cost to replicate this facility from scratch?

Infrastructure Component	Cost Range (New Build)	Depreciation Factor
Substation / Transformer (utility-grade)	$400–$900/kW installed	20–40 year lifespan
Distribution & Switchgear	$80–$200/kW	15–25 year lifespan
Cooling & HVAC Systems	$60–$180/kW	10–15 year lifespan

Infrastructure Component	Cost Range (New Build)	Depreciation Factor
Building / Civil Works	$150–$400/kW	30–50 year lifespan
Control Systems & Security	$20–$60/kW	5–10 year lifespan
Generators / Backup Power	$100–$300/kW	15–20 year lifespan

Replacement cost valuation provides a floor. A facility trading below its infrastructure replacement cost offers embedded margin of safety — assuming the power contract remains valid.

1.3 EBITDA Multiple — Operating Business Valuation

For facilities with a proven operating track record of 12+ months, EBITDA multiples provide the most rigorous business-value framework. Mining facility EBITDA multiples have historically ranged from 3x to 12x depending on contract duration, power cost, and Bitcoin price environment.

Factor	EBITDA Multiple Adjustment	Rationale
Sub-3¢/kWh power (locked PPA)	+2x to +4x	Near-permanent competitive moat
5+ year remaining lease	+1x to +2x	Reduces re-permitting and relocation risk
Revenue diversification (hosting + self-mine)	+0.5x to +1x	Reduces BTC price correlation
Management team staying post-close	+0.5x to +1x	Operational continuity premium
Single-counterparty power risk	–1x to –2x	Concentration risk discount
Regulatory uncertainty in jurisdiction	–1x to –3x	Political/permitting risk

1.4 Net Asset Value (NAV) — Balance Sheet Approach

NAV valuation aggregates the fair market value of all assets minus all liabilities. Most relevant for facilities with significant hardware inventory included in the sale.

Asset Category	Valuation Method	Key Watch-Out
ASICs — Current Generation	Market bid/ask (Hashrate Index)	Prices move with BTC price — date your comp
ASICs — Prior Generation (18–36 mo)	60–75% of current-gen comparable	Efficiency gap widens at low BTC prices
ASICs — Legacy (36+ mo)	10–40% of original cost	Often worth more as parts than whole units
Real Property (owned)	Certified independent appraisal	Mining use may restrict comparable sales
Electrical Interconnection	Utility replacement cost estimate	Long lead times mean high strategic premium
Permits & Licenses	Legal counsel valuation	Non-transferable permits = zero in NAV

1.5 Discounted Cash Flow (DCF) — Forward Earnings Model

DCF is the most intellectually rigorous — and most assumption-sensitive — method. It forces both parties to make explicit their Bitcoin price outlook, difficulty growth assumptions, and hardware refresh cadence.

Key DCF inputs to negotiate explicitly:

- Bitcoin price scenarios (base / bull / bear) — use at least 3 cases
- Network difficulty growth rate (historical 60–80% annualized, modeled at 30–50% for conservative underwriting)
- Hardware efficiency degradation curve (ASICs lose ~5–8% effective hash rate per year vs. network average)
- Power cost escalation clauses in PPA
- Hardware replacement capex schedule
- Terminal value assumption (often drives 40–60% of total DCF value)

> ⚠ **Red Flag**
> DCF models built on Bitcoin price assumptions above $150,000 or difficulty growth below 20% annually should be treated as blue-sky scenarios, not base case. Any seller presenting a single-scenario DCF without sensitivity tables is hiding risk.

Chapter 2: Power — The Asset That Runs Everything

In Bitcoin mining, power is the product. The facility is just the shell. A world-class building with expensive power loses to a shipping container with a sub-3¢ PPA every time. This chapter covers how to analyze, price, and negotiate around the most important variable in any mining facility deal.

2.1 Power Cost Benchmarks

Power Cost	Mining Profitability Profile	Strategic Implication
< 2¢/kWh	Profitable at nearly any BTC price	Extremely rare — institutional-grade asset
2¢ – 3.5¢/kWh	Profitable above ~$30,000 BTC	Premium tier — pay up for this
3.5¢ – 5¢/kWh	Profitable above ~$50,000 BTC	Standard commercial mining range
5¢ – 7¢/kWh	Marginal — survives bull markets only	Significant valuation discount warranted
7¢+ /kWh	Near-term unprofitable at current prices	Distressed — infrastructure play only

2.2 Power Purchase Agreement (PPA) Due Diligence

The PPA is often worth more than the physical infrastructure. A 5-year fixed-rate agreement at 3¢/kWh can represent tens of millions of dollars in embedded value against spot power markets.

Buyer Checklist

- Request the full executed PPA — not a summary
- Verify assignment/transfer provisions (many PPAs are non-transferable)
- Review force majeure clauses — do they favor the utility?
- Confirm curtailment terms and demand response obligations
- Audit 24-month actual power bills vs. PPA terms
- Check interconnection agreement separately from PPA

Seller Preparation

- Pre-negotiate utility consent to assignment before going to market
- Prepare a PPA summary memo for potential buyers
- Document actual blended cost per kWh including demand charges
- Quantify curtailment history — how many hours and at what BTC price?
- If PPA expires in <2 years, either extend it or price it into valuation upfront

2.3 Capacity and Load Factor Analysis

Metric	Definition	Target Range
Installed Capacity (MW)	Maximum contracted/permitted power draw	Facility-specific
Operating Load (MW)	Actual average draw over trailing 90 days	> 85% of installed
Load Factor	Operating Load ÷ Installed Capacity	90%+ = well-optimized
Stranded Capacity	Unused contracted power	< 10% acceptable
Power Utilization Efficiency	IT load ÷ Total facility power (PUE)	1.05–1.20 target for air cooling
Demand Charge Exposure	Peak load surcharges from utility	Minimize with load smoothing

Chapter 3: Hardware Valuation & Fleet Analysis

Mining hardware is simultaneously the highest-value asset and the fastest-depreciating one. ASIC miners lose economic relevance on a 2–4 year cycle as network difficulty grows and newer generations render older machines uncompetitive.

3.1 The ASIC Depreciation Reality

Hardware Age	Efficiency vs. Network Average	Estimated Market Value	Mining Viability
0–12 months (current gen)	Top 10% efficiency	75–95% of original cost	Fully viable all cycles
12–24 months	Competitive	50–75% of original cost	Viable above $40K BTC
24–36 months	Below average	25–50% of original cost	Viable in bull markets
36–48 months	Significantly below average	10–25% of original cost	Marginal / curtail in bear
48+ months (legacy)	Uncompetitive	< 10% or scrap value	Uneconomic at most BTC prices

3.2 Fleet Inventory Verification Protocol

Never accept a seller's fleet summary without independent verification. Hardware counts and performance claims are among the most commonly misrepresented data points in mining facility sales.

- Physical count: Require serial number scan of all units in racks
- Pool data verification: Cross-reference pool dashboard against claimed unit count
- Power consumption audit: Compare actual facility power draw vs. theoretical max
- Hashboard testing: Sample at least 10% of fleet for individual hashboard diagnostics
- Repair queue inventory: Quantify offline units and estimated repair cost
- Firmware version audit: Confirm no unauthorized overclocking or performance modifications

₿ Power-to-Hash Sanity Check

A facility claiming 50 PH/s but pulling only 4.2 MW of power has a math problem. Standard S19j Pro units draw ~3.1 kW each. 4.2 MW supports ~1,355 units at rated power — yielding ~135 PH/s at 100 TH/s each. Verify the physics before you verify the paperwork.

3.3 Hardware Included vs. Excluded — Deal Structure Clarity

Buyer Protections

- Demand a Schedule of Assets listing every ASIC by serial number in the purchase agreement
- Specify condition warranties (no more than X% offline at close)
- Negotiate hardware replacement obligations if units fail pre-close inspection
- Get clarity on pending warranty claims — do they transfer?

Seller Preparation

- Prepare a clean asset schedule early — it signals professionalism
- Separate hardware pricing from infrastructure — don't bundle for buyer convenience
- Document all warranty transferability BEFORE listing
- Consider excluding legacy hardware from the deal and selling separately

Chapter 4: Operational Due Diligence — The 40 Questions

Due diligence in mining facility acquisitions is not a checklist exercise. It is a structured interrogation of every assumption baked into the valuation model. Below are the 40 questions that separate informed buyers from expensive learners.

4.1 Power & Energy

- What is the all-in blended power cost per kWh including demand charges, transmission, and distribution?
- Who is the utility counterparty and what is their credit rating?
- What are the curtailment provisions and how many curtailment hours occurred in the past 24 months?
- Are there any open rate cases or regulatory proceedings that could affect future power pricing?
- What is the interconnection upgrade path if capacity is expanded?
- Is backup generation available, and what is its capacity and fuel contract?

4.2 Infrastructure & Real Estate

- Is the facility owned or leased? If leased, what are the assignment and sublease provisions?
- What is the remaining lease term and renewal options?
- Are all permits (building, electrical, environmental, zoning) current and transferable?
- What is the condition of the roof, HVAC, and structural systems? When was the last inspection?
- Are there any open code violations, permit disputes, or neighbor complaints?
- What is the flood zone designation and insurance coverage?

4.3 Financial & Legal

- Provide 24 months of audited or reviewed financial statements
- What is the current accounts receivable aging schedule (for hosting operations)?
- Are there any outstanding liens on hardware, property, or receivables?
- Has the entity ever filed for bankruptcy or had judgments entered against it?
- What are all current contracts with hosting customers, including termination provisions?
- Are there any related-party transactions that affect the financials?
- What is the historical tax filing status and are there any open IRS or state audits?

4.4 Operations & Personnel

- Who are the key operational personnel and are they under employment agreements?

- What is the historical uptime percentage and what caused downtime events?
- What monitoring and management software is in use and who owns the licenses?
- What is the hardware repair and maintenance cadence?
- Does the facility self-mine, host, or both? What is the revenue split?
- What mining pools are used and what are the fee structures?

4.5 Security & Compliance

- What physical security measures are in place (cameras, access control, guards)?
- Has the facility experienced any theft incidents? What was the resolution?
- Are there any OFAC, AML, or know-your-customer compliance obligations for hosting customers?
- What cybersecurity measures protect mining infrastructure from unauthorized access or pool switching?

4.6 Expansion & Strategic

- What is the maximum permitted and contractable power capacity?
- Are there any right-of-first-refusal agreements with the utility or landlord for additional capacity?
- What is the timeline and cost estimate for a capacity expansion?
- Are there any competing facilities within the same utility service area that could affect future capacity availability?

Chapter 5: Red Flags and Deal Killers

Experienced acquirers develop an instinct for the patterns that precede bad outcomes. Here are the most common warning signs — and what each typically means in practice.

Red Flag	What It Usually Means	Buyer Response
PPA non-transferable without utility consent	Deal may be unworkable or require major renegotiation	Require utility consent BEFORE exclusivity or LOI
Hash rate claims not supported by pool data	Seller may be inflating performance or commingling machines	Walk away if not resolved in 48 hours
No 12-month financial history	Entity is too new or data is being hidden	Require escrow holdback or seller note
Key employees won't commit post-close	Operational knowledge walks out the door	Negotiate retention packages before close
Pending permit appeals or utility disputes	Facility may lose operating authority	Make resolution a closing condition
More than 15% fleet offline at time of inspection	Maintenance culture is poor	Re-price or require repair escrow
Hosting contracts with no minimum terms	Revenue can disappear overnight	Discount revenue 30–50% in DCF model
Power cost increases tied to BTC price in PPA	Utility is extracting mining upside	Structural economic problem — major discount
Seller unwilling to provide warranty rep insurance	Seller has low confidence in own disclosures	Walk away unless price reflects the risk
Multiple liens discovered in title search	Capital structure is complex or distressed	Full capital structure disclosure before LOI

> ⚠ **The #1 Buyer Mistake**
>
> The single most expensive mistake buyers make: falling in love with the hash rate number before validating the power contract. The hash rate is worthless if the power rate is 8¢/kWh on a month-to-month arrangement.

Chapter 6: Deal Structures — How Money Actually Moves

The structure of a mining facility acquisition can be as consequential as the price. Tax treatment, risk allocation, and operational continuity all depend on getting the structure right.

6.1 Asset Purchase vs. Entity Purchase

Structure	Buyer Preference	Seller Preference	Key Consideration
Asset Purchase	Strong — fresh start on liabilities	Weaker — double taxation possible	Buyer gets step-up in tax basis
Entity Purchase (Stock/Membership)	Weaker — inherits all liabilities	Stronger — single level of tax	Full reps & warranties insurance recommended
Hybrid (carve-out)	Situational	Situational	Used when entity has other business lines

6.2 Payment Structures

Payment Component	Description	Typical Range
Cash at Close	Immediately wire-transferred funds	50–80% of total consideration
Seller Note / Earnout	Deferred payments tied to performance	10–30% of total consideration
Equity in Acquirer	Shares or tokens in the purchasing entity	0–20% of total consideration
Hardware Escrow Holdback	Funds held pending hardware verification period	5–15% of hardware value
Working Capital Adjustment	True-up based on actual vs. target working capital	±2–5% of total deal value

6.3 Reps, Warranties & Indemnification

Mining facility acquisitions carry elevated reps and warranties risk due to the fast-moving nature of hardware values, power market dynamics, and regulatory environments.

- Material reps: Power cost, hash rate performance, fleet condition, title to assets
- Environmental reps: No hazardous materials, no prior contamination
- IP reps: Software licenses, pool agreements, monitoring tools

- Indemnification basket: Typically 0.5–1% of deal value (deductible before indemnity kicks in)
- Indemnification cap: Typically 10–20% of deal value for general reps; 100% for fundamental reps
- Survival period: 12–24 months for general reps; 3–6 years for tax and environmental

Buyer Negotiation

- Push for 18+ month survival periods on all hardware and power reps
- Require R&W insurance when seller's balance sheet is thin
- Include specific indemnity for undisclosed curtailment obligations
- Lock in a hash rate floor warranty for 90 days post-close

Seller Negotiation

- Negotiate short survival periods — 12 months for general reps
- Offer R&W insurance to reduce escrow holdback requirements
- Disclose all known issues in a detailed disclosure schedule
- Cap indemnity at 15% of deal value — resist unlimited exposure

Chapter 7: Valuation Scenario Examples

The following scenarios illustrate how the five valuation methodologies converge (or diverge) for three archetypal facility profiles. These are illustrative only — adjust all inputs for your specific asset.

7.1 Scenario A: Tier 1 Premium Facility

Parameter	Value
Installed Capacity	50 MW
Active Hash Rate	5.0 EH/s (current-gen S21 fleet)
All-In Power Cost	2.8¢/kWh (8-year PPA, 5 years remaining)
Facility Ownership	Land owned — 200,000 sq ft
Revenue Model	60% self-mine / 40% hosting
EBITDA (trailing 12 mo, $60K BTC avg)	$18.5M
Hash Rate Multiple Valuation	$112.5M–$200M (at $22.5M–$40M/EH/s)
EBITDA Multiple Valuation	$148M–$222M (at 8x–12x)
Infrastructure Replacement Cost	$145M–$210M
Indicative Valuation Range	$150M–$210M

7.2 Scenario B: Mid-Market Operating Facility

Parameter	Value
Installed Capacity	12 MW
Active Hash Rate	950 PH/s (mixed fleet — S19j Pro + S19 XP)
All-In Power Cost	4.5¢/kWh (3-year fixed, 18 months remaining)
Facility Ownership	Leased — 5 years remaining, assignable
Revenue Model	100% self-mine
EBITDA (trailing 12 mo, $60K BTC avg)	$3.1M
Hash Rate Multiple Valuation	$9.5M–$22.8M
EBITDA Multiple Valuation	$15.5M–$24.8M (5x–8x)
Infrastructure Replacement Cost	$28M–$42M
Indicative Valuation Range	$14M–$22M

7.3 Scenario C: Distressed / Turnaround Facility

Parameter	Value
Installed Capacity	8 MW (only 5 MW active)
Active Hash Rate	350 PH/s (legacy S17/T17 fleet)
All-In Power Cost	6.2¢/kWh (month-to-month)
Facility Ownership	Leased — 14 months remaining, non-assignable
Revenue Model	Hosting (3 customers, no minimum commitments)
EBITDA (trailing 12 mo, $60K BTC avg)	Breakeven / slight loss
Infrastructure Replacement Cost	$18M–$28M (for the MW capacity)
Turnaround Value Thesis	Re-power with new hardware + negotiate long-term PPA
Indicative Valuation Range	$2M–$6M (infrastructure/power optionality value only)

Chapter 8: Seller Preparation — Building a Premium-Commanding Package

The difference between a 6x EBITDA multiple and a 10x is usually not the facility itself. It's the quality of the information the seller presents, the narrative they build around it, and how professionally they manage the process.

8.1 The Seller Data Room — What to Prepare

- **24 months audited/reviewed P&L, Balance Sheet, Cash Flow:** Financial statements
  - Revenue broken out by self-mine vs. hosting vs. other
  - EBITDA bridge showing adjustments (one-time items, owner comp normalization)
  - Monthly P&L for last 24 months (buyers will strip out BTC price effects)

- **Complete power package:** Power documentation
  - Executed PPA with all amendments
  - 24 months of actual utility invoices
  - Interconnection agreement
  - Utility correspondence regarding assignment

- **Fleet inventory:** Hardware documentation
  - Serial number list with model, location, and status
  - 90-day pool performance data by machine group
  - Repair queue with estimated cost to bring to 100%
  - All warranty documentation and transferability status

- **Entity and title:** Legal documentation
  - Entity formation documents, operating agreement, capitalization table
  - All material contracts (hosting, maintenance, security)
  - Permits and licenses with expiration dates
  - Title report or lease with assignment provisions highlighted

8.2 The Seller Narrative — How to Frame Value

Buyers don't just buy cash flows. They buy a story about what the asset becomes under their ownership. Help them see it.

- Lead with the power contract — it is the moat
- Quantify expansion potential — how many more MW can be added and at what cost?
- Document operational excellence — uptime percentages, maintenance culture, team quality
- Frame BTC price sensitivity honestly — buyers respect sellers who show bear-case analysis
- Identify the right buyer profile — financial buyers vs. strategic acquirers value different things

Seller Best Practice

Sellers who present a professionally organized data room with complete documentation close deals 40–60% faster than those who respond to requests ad hoc. First impressions in M&A are persistent. A disorganized data room signals a disorganized operation.

Chapter 9: Quick Reference Valuation Checklist

Use this checklist during initial facility evaluation. Items marked as critical should be resolved before any LOI is signed.

#	Checklist Item	Critical?	Buyer ✓	Seller ✓
1	Power contract obtained and reviewed	YES	☐	☐
2	PPA assignability confirmed with utility	YES	☐	☐
3	Blended power cost (incl. demand charges) verified	YES	☐	☐
4	24-month pool data obtained and analyzed	YES	☐	☐
5	Hardware serial number list provided	YES	☐	☐
6	Physical hardware count/sample completed	YES	☐	☐
7	24-month financial statements reviewed	YES	☐	☐
8	All material contracts reviewed	YES	☐	☐
9	Title report or lease assignment confirmed	YES	☐	☐
10	Environmental screening completed	YES	☐	☐
11	All permits verified as current and transferable	YES	☐	☐
12	Key personnel retention plan discussed	Recommended	☐	☐
13	Expansion capacity quantified	Recommended	☐	☐
14	Hosting contracts with minimum terms confirmed	Recommended	☐	☐
15	Insurance policies reviewed	Recommended	☐	☐
16	All five valuation methods applied	Recommended	☐	☐
17	3-scenario DCF model completed	Recommended	☐	☐
18	R&W insurance quoted	Recommended	☐	☐
19	Quality of earnings report commissioned	Deal-Dependent	☐	☐
20	Environmental Phase I completed	Deal-Dependent	☐	☐

Chapter 10: Glossary of Key Terms

Term	Definition
ASIC	Application-Specific Integrated Circuit — purpose-built computer chip for Bitcoin mining
PPA (Power Purchase Agreement)	Long-term contract between a mining facility and a power supplier specifying rate, capacity, and duration
Hash Rate	The computational speed of mining equipment, measured in terahashes (TH/s), petahashes (PH/s), or exahashes (EH/s) per second
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization — standard operating profitability metric
Network Difficulty	A measure of how hard it is to mine a Bitcoin block, adjusted every 2016 blocks (~2 weeks) to maintain 10-minute block times
PUE (Power Usage Effectiveness)	Ratio of total facility power to IT load power; lower is better (1.0 = perfect efficiency)
NAV (Net Asset Value)	Total fair market value of assets minus total liabilities
DCF (Discounted Cash Flow)	Valuation method that estimates value based on projected future cash flows, discounted to present value
Curtailment	Agreement to reduce power consumption upon utility request, often in exchange for lower rates
Interconnection Agreement	Contract between a facility and utility governing physical connection to the power grid
LOI (Letter of Intent)	Non-binding agreement outlining key transaction terms before formal purchase agreement
R&W Insurance	Representations and Warranties Insurance — coverage for losses arising from seller misrepresentations
J/TH (Joules per Terahash)	Efficiency rating for mining hardware — lower is better
Hosting	Operating a mining facility on behalf of third-party hardware owners, charging a power or management fee

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