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Bitcoin Mining/Data Center Development | North America

Power Play: WULF's Muskie and CIFR's Reisel/McLennan Additions Increase Pipeline Value

We raise WULF PT to $66.50 from $42 and CIFR PT to $53.50 from $42.50, reflecting the Muskie and Riesel/McLennan site additions, respectively, and a higher-quality 80/20 hyperscaler-backed/neocloud-backed mix for unsigned pipeline MWs.

Key Takeaways

- WULF adds 1,000 MW (800 Critical IT MWs) to our pipeline framework, moving to 2,550 MW from 1,750 MW, and increasing our base case to $66.50 from $42.
- CIFR adds 500 MW, moving to 3,070 MW from 2,570 MW, increasing our base case to $53.50 from $42.50.
- We now weight unsigned MWs 80% toward hyperscaler-backed economics, increasing the value of potential deals.
- The BTC-to-HPC theme moves toward addressing infrastructure constraints: power, transmission & time-to-power remain gating factors for AI deployment in 2026.

Tech Diffusion
A Morgan Stanley Research Key Theme of 2025

We are updating our valuation framework for WULF and CIFR to reflect two additions to the power-interconnect pipeline and a higher-quality expected deal mix for unsigned megawatts. The key constraint for AI deployment remains access to large, reliable blocks of power with a credible path to energization. WULF's Muskie acquisition adds a 1+ GW Eastern Kentucky campus; Cipher's Riesel/McLennan addition adds another 500 MW Texas option tied to the ERCOT batch process.

We continue to view 2026 as the Year of Execution, but not as a terminal year for the theme. The more important point is permanence: The need for power access and fast time-to-power persists as model capability, inference intensity and hyperscaler capex compound.

Methodology: Moving from 50/50 to 80/20

We are changing our valuation approach for unsigned pipeline MWs. Previously, we valued those MWs using a 50/50 split between hyperscaler-backed economics and neocloud-backed economics. That was a deliberately conservative framing at

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BITCOIN MINING/DATA CENTER DEVELOPMENT	
North America	
Industry View	Attractive

WHAT'S CHANGED		
Cipher Mining Inc. (CIFR.O)	From	To
Price Target	$42.50	**$53.50**
TeraWulf Inc (WULF.O)	From	To
Price Target	$42.00	**$66.50**

initiation: It recognized the scarcity value of power, while still assuming a meaningful probability that future deals would clear at less attractive neocloud-style economics.

We now move the mix to 80/20 in favor of hyperscaler-backed economics for both WULF and CIFR, which indicate value/watts of ~$11.50 and ~$10.75, respectively — both still slightly below our expectation of $15/watt. **We believe it is likely that most future Bitcoin-to-DC transactions will involve guarantees for lease obligations from investment grade hyperscalers, which is indicative of the negotiating leverage possessed by the Bitcoin companies.** Further, our models now appropriately reflect our expectations of yields on capex for both hyperscaler-backed and neocloud-backed deals at 17.0% and 15.0% respectively, to reflect a range of potential outcomes (from lower yield + lower credit quality, to higher yield + higher credit quality). The rationale is straightforward: both companies have demonstrated the ability to secure hyperscaler-backed or hyperscaler-quality structures, and we believe future unsigned MWs should be valued closer to that observed path rather than to a neutral midpoint. This is not a full step-up to the most favorable precedent transactions, but rather a recognition that the base case has improved.

The following table provides key metrics from other recent "powered shell" transactions involving Bitcoin companies:

Exhibit 1: Overview of Recent "Powered Shell" Transactions

HPC Deal Comps	Galaxy	TeraWulf			Cipher Digital			Applied Digital					Riot	Hut8	
Lease Announcement Date	8/17/2025	12/22/2024	8/14/2025 8/18/2025	10/28/2025	9/25/2025 11/20/2025	11/3/2025	5/6/2026	6/2/2025	8/29/2025	10/22/2025	4/8/2026	5/20/2026	1/17/2026 4/30/2026	12/17/2025	12/17/2025
Tenant Classification	Neocloud	Neocloud	Neocloud, Google as Backer	Neocloud (JV), Google as Backer	Neocloud, Google as Backer	Hyperscaler	Undisclosed	Neocloud	Neocloud	Hyperscaler	Hyperscaler	Hyperscaler	Hyperscaler-Quality	Neocloud, Google as Guarantor	Undisclosed
Site Location	Dickens County, TX	Lake Mariner, NY		Abernathy, TX	Colorado City, TX	Wink, TX	Andrews County, TX	Ellendale, ND	Ellendale, ND	Harwood, ND	Alexandria, LA	Undisclosed	Milam County, TX	St. Francisville, LA	Nueces County, Texas
Site Name	Helios	Lake Mariner		Abernathy JV	Barber Lake	Black Pearl	Stingray	Polaris Forge 1	Polaris Forge 1	Polaris Forge 2	Delta Forge 1	Polaris Forge 3	Rockdale	River Bend	Beacon Point
Estimated Lease Start	6/30/2026	WULF Den: Jun-25 CB-1: Aug-25 CB-2: Mar-26	CB-3: May '26 CB-4: 3Q26 CB-5: 4Q26	10/31/2026	9/30/2026	9/30/2026	10/1/2026	ELN-02: Aug '25 ELN-03: Jun '26	6/30/2027	10/1/2026	6/30/2027	Unknown	5/30/2026	4/30/2027	9/30/2028
Announcement to Start (Weeks)[1]	45	27	41	53	53	47	21	56	96	49	64	0	19	71	125
Warrants		WULF issued 73.58mn warrants to Google at $0.01/share for leases at CB-3, 4, and 5.		NA	CIFR issued ~24.2mn warrants to Google at $0.01 per share.	NA	NA	APLD issued 13.062mn warrants to CoreWeave at $7.19/share.	APLD issued 8.394mn warrants to CoreWeave at $10.75/share	NA	NA	NA	NA	NA	NA
Debt Raise (Type)	HY Loan	HY bonds (WULF 7.75 '30)		HY Bonds (FLASHC 7.25 '30)	HY Bonds (CIFR 7.125 '30)	HY Bonds (BLKPRL 6.125 '31)		HY Bonds (APLD 9.25'30)		HY Bonds (PFORGE 6.75 '31)				IG Bonds (HUTRBA 6.192 '42)	Not yet completed
Debt Raise (Amount)	1,400	3,200		1,300	1,733	2,000	Not completed	2,350		2,150				3,250	Not completed
Lease Term (Yrs)[2]	15+5+5	10+5+5	10+5+5	25-5-5	10+5+5	15+5+5+5	15	15+5+5+5	15+5+5+5	15+5+5	15+5+5+5	15+5+5+5	10+5+5+5	15+5+5+5	15+5+5+5
Total IT Load	200	72.5	450	240	300	300	100	285	177	280	430	430		330	475
Data Center Critical IT Load	133	60	378	168	207	216	70	250	150	200	300	300	50	245	352
Contracted Revenue (mn)	4,043	1,107	6,914	9,500	3,838	5,500	2,062.00	7,000	4,000	4,664	7,500	7,500	636	6,982	9,800
PUE	1.50	1.21	1.19	1.43	1.45	1.39	1.42	1.18	1.18	1.40	1.43	1.43		1.35	1.35
Revenue per Critical IT Watt	$2.03	$1.85	$1.83	$2.26	$1.85	$1.70	$1.95	$1.87	$1.78	$1.55	$1.67	$1.67	$1.27	$1.90	$1.86
Total Revenue per Year	**$270**	**$111**	**$691**	**$380**	**$384**	**$367**	**$137**	**$467**	**$267**	**$311**	**$500**	**$500**	**$64**	**$465**	**$653**
Operating Costs	(27)	(28)	(104)	(114)	(54)	0	(14)	(56)	(32)	(44)	(75)	(75)	(13)	0	0
Operating Margin (%)	90%	75%	85%	70%	86%	100%	90%	88%	88%	86%	85%	85%	80%	100%	100%
Operating Margin per Watt	1.82	1.38	1.55	1.58	1.59	1.70	1.76	1.64	1.56	1.34	1.42	1.42	1.02	1.90	1.86
EBITDA	**$243**	**$83**	**$588**	**$266**	**$330**	**$367**	**$124**	**$411**	**$235**	**$267**	**$425**	**$425**	**$51**	**$465**	**$653**
Construction Cost/Watt	13.7	7.0	9.0	9.0	10.5	9.5	10.5	12.0	12.0	12.0	12.0	12.0	3.5	10.0	10.0
Construction Cost	1,827	420	3,230	1,512	2,172	2,052	740	3,000	1,800	2,400	3,600	3,600	173	2,450	3,520
Capex Multiple on EBITDA	7.5x	5.1x	5.5x	5.7x	6.6x	5.6x	6.0x	7.3x	7.7x	9.0x	8.5x	8.5x	3.4x	5.3x	5.4x
Unlevered EBITDA Yield on Capex	**13.3%**	**19.8%**	**18.2%**	**17.6%**	**15.2%**	**17.9%**	**16.7%**	**13.7%**	**13.0%**	**11.1%**	**11.8%**	**11.8%**	**29.6%**	**19.0%**	**18.6%**
Leverage as a Multiple of EBITDA	5.8x	4.8x		4.9x	5.3x	5.5x	Unknown	5.7x		8.0x	Unknown	Unknown	Unknown	7.0x	Unknown
Loan-to-Cost	**80%**	**74%**		**74%**	**71%**	**85%**	Unknown	**75%**	**70%**	**90%**	Unknown	Unknown	Unknown	**97%**	Unknown
Total Capitalization (Equity + Debt)		4,300		1,750	2,443	2,414	Unknown	3,133		2,389	Unknown	Unknown	Unknown	3,338	Unknown
REIT Acquisition: Indicative EV/EBITDA	**12.5x**	**15.0x**		**15.0x**	**15.0x**	**15.0x**	**15.0x**	**15.0x**	**15.0x**	**15.0x**	**13.0x**	**13.0x**	**13.0x**	**15.0x**	**15.0x**
Resulting Enterprise Value	3,032	10,061		3,990	4,951	5,500	1,856	6,160	3,520	4,011	5,525	5,525	663	6,982	9,800
Resulting Equity Value	1,632	6,861		2,690	3,218	3,500	N/A	3,810	2,280	1,861	N/A	N/A	N/A	4,597	N/A
Value Creation on Equity Investment	347%	635%		592%	411%	1037%	N/A	408%	319%	675%	N/A	N/A	N/A	7017%	N/A
Equity Value ($mm/MW)	$12.27	$15.66		$16.01	$15.55	$16.20	N/A	$15.24	$15.07	$9.31	N/A	N/A	N/A	$18.76	N/A
Equity Value Creation ($mm/MW)	**$9.53**	**$13.53**		**$13.70**	**$12.50**	**$14.78**	**$15.84**	**$12.24**	**$11.47**	**$8.11**	**N/A**	**N/A**	**$9.81**	**$18.50**	**N/A**
EV Creation as a % of Total DC Cost/Watt	**69%**	**155%**		**152%**	**119%**	**156%**	**N/A**	**102%**	**96%**	**68%**	**N/A**	**N/A**	**N/A**	**185%**	**N/A**

Source: Company Filings, Morgan Stanley Research.

WULF Acquires Muskie, Adds Scalable Kentucky Capacity

Stepping back, we observe that WULF management has had significant success in adding additional power access, which we view as highly difficult to achieve. This is, in our view, a sign of management's depth of power sector expertise. WULF announced the acquisition of the Muskie Data Campus, a hyperscale HPC development site in Eastern Kentucky. The site is expected to support more than 1 GW of data center capacity over time, with the initial 500 MW expected to ramp beginning in 2H28 and an additional 500 MW targeted for 2H30. We add the full 1,000 MW to WULF's pipeline valuation, taking total pipeline sites to 2,550 MW from 1,750 MW. The site characteristics are consistent with the attributes we believe have become increasingly scarce: scale, transmission, development readiness and a clear utility pathway. Muskie is located within the 1,000-acre EastPark Industrial Park, with approximately 285 acres owned or controlled and optional adjacent acreage. Kentucky Power, an AEP company, is constructing a 345 kV substation connected to the existing 765 kV transmission network, designed to support the full 1+ GW campus.

The power/transmission setup matters because it is the direct expression of the BTC-to-HPC thesis. The value is not merely acreage. The value is controlled access to power, high-voltage transmission, permitting progress and a credible construction path. WULF also notes that the site is already zoned for the intended use, with permitting underway and limited site work required. In our view, this is precisely the type of pipeline addition that strengthens WULF's ability to continue signing long-duration HPC leases.

One risk we monitor for WULF is the proposed New York State legislation that would place a moratorium on the issuance of data center permits, among other provisions. Up to ~600 megawatts of WULF's New York power access could be subject to this legislation if it were to pass. The proposed legislation can be found here. The bill places a one year moratorium on the issuance of data center permits; requires utilities to establish an independent classification of service for large data centers; sets energy efficiency goals for data centers; provides for benefits for host communities; sets labor standards for the construction of data centers.

Our WULF price target rises to $66.50 from $42, a 58% increase. Our bull case rises to $103 from $84, and our bear case rises to $15 from $12. The principal drivers are the +1,000 MW addition and the 80/20 weighting toward hyperscaler-backed economics on unsigned MWs.

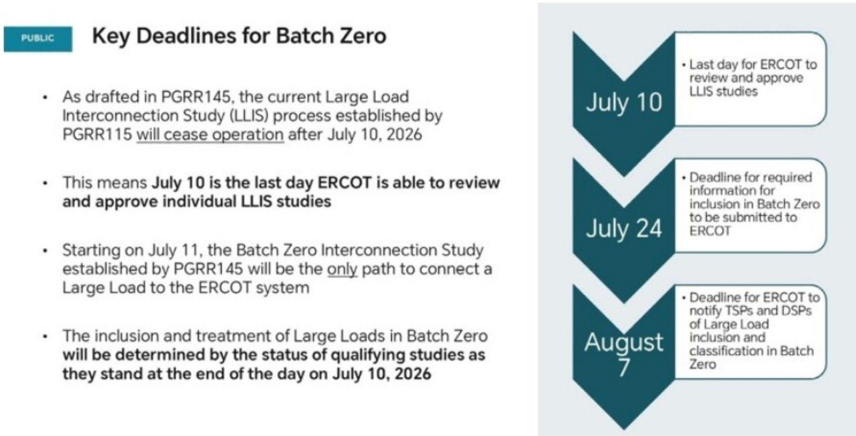
The acquisition also reinforces a point that has been central to our positive view of WULF: anagement has continued to add sizable, credible power opportunities while converting existing assets into contracted HPC infrastructure. The time-to-energization is not immaterial; the first 500 MW ramp begins in 2H28. However, in a market where competing grid interconnection timelines can stretch for many years, a large, transmission-backed 2H28 pathway remains highly relevant to hyperscale buyers.

CIFR: Riesel/McLennan Adds Another ERCOT Batch Zero Option

CIFR has also achieved significant success in growing its power access, and we view CIFR as a key beneficiary of the pending ERCOT batch assessment. We refer to the acquired 500 MW Riesel-area site as Riesel/McLennan in this note, because Cipher's official materials identify McLennan as the 500 MW Texas pipeline site. Cipher lists McLennan as a 500 MW site on 210 acres with an estimated 2028 energization timeline. We add 500 MW to CIFR's pipeline, taking total pipeline sites to 3,070 MW from 2,570 MW.

The site is important for two reasons. First, it increases CIFR's inventory of future HPC capacity at a time when the company is increasingly valued on pipeline monetization rather than near-term BTC mining earnings. Second, it sits within the same Texas ERCOT interconnection process that underpins several of CIFR's larger pipeline assets.

Exhibit 2: ERCOT Batch Process Key Dates



Source: ERCOT

Cipher's 1Q26 business update describes McLennan as having all necessary deposits funded and land secured, with requisite studies approved by ERCOT and expected inclusion in Batch Zero. The same update identifies Colchis and Mikeska as 2028 target-energization assets subject to the ERCOT batch study process. We view McLennan's status as a meaningful gating milestone, not as a final energization guarantee. Batch Zero positioning should help preserve schedule optionality, but gross capacity and target energization remain subject to ERCOT's study and approval process.

This distinction is important for valuation. In our SOTP, we give credit for the site because it has the hallmarks of a monetizable pipeline asset: funded deposits, land secured and a visible interconnection process. We do not treat Batch Zero status as equivalent to a signed lease or fully de-risked power delivery. The 80/20 methodology still requires execution: leasing, financing, procurement, construction and the final utility pathway must all come together.

Our CIFR price target rises to $53.50 from $42.50, a 25.8% increase. Our bull case rises to $71.00 from $57.50, and our bear case climbs to $11 from $7. The move reflects the +500 MW pipeline addition, the higher hyperscaler-backed weighting for unsigned MWs and updated BTC mining valuation inputs.

Recommended positioning: own the constraints to AI deployment. We remain fundamentally bullish on the magnitude of benefits from AI adoption, and we expect this magnitude to keep increasing as LLMs improve at a non-linear rate. The durable bottleneck is not simply model quality. It is the ability to deliver the compute, power, cooling, land, transmission and construction capacity needed to support more capable models and more intensive inference workloads. **We believe the coin of the realm in 2026 and beyond will be Intelligence,** and the key ingredients will be compute, low-cost and reliable energy, frontier AI development capability, data, expertise in leveraging and curating that data, and trust in the guardrails surrounding that Intelligence. WULF and CIFR sit in the de-bottlenecking layer: they are not model companies, but they can own scarce time-to-power capacity. Pipeline MWs therefore indicate upside for companies with BTC-to-HPC conversion potential. The incremental MWs at Muskie and Riesel/McLennan do not need to be signed tomorrow to have value. They extend the option set for future hyperscaler-backed leases, and they increase the probability that WULF and CIFR can compound contracted HPC capacity over multiple years.

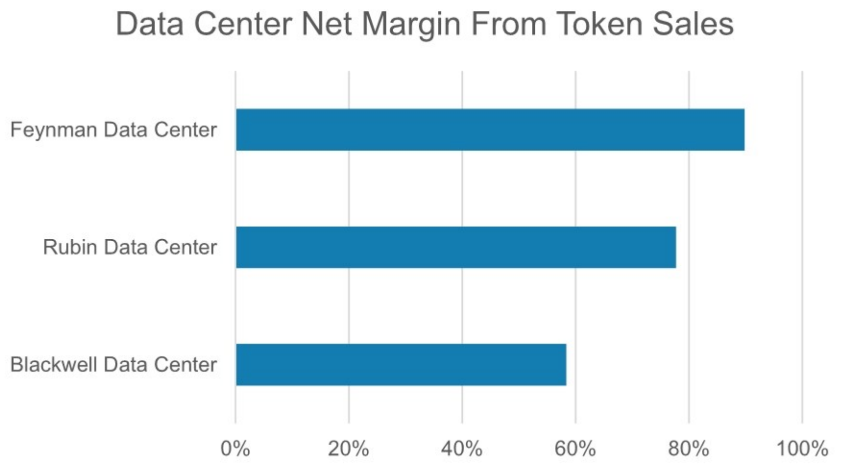
Further, we continue to see improving terms for power and data center development transactions that offer attractive time-to-power. Power and data center developers may be able to achieve improved terms, including better allocation of project risk, given the significant excess of demand for these products relative to supply. This is a helpful development because we still see material project execution risk, ranging from supply-chain friction to labor availability and utility coordination. 2026 remains, in our view, the Year of Execution. But the theme is no longer simply a one-year tactical idea. The more durable conclusion is that power and transmission scarcity should remain a multi-year gating factor for AI infrastructure growth, creating sustained strategic value for companies that can provide credible, large-scale time-to-power.

Updates to the Intelligence Factory

Please ask us for a copy of our Intelligence Factory model, which includes detailed mathematics with respect to token usage. From the perspective of an Enterprise adopter of AI, the economics are compelling. For example, in a study of a wide range of Enterprise AI use cases, the average single use would save an Enterprise customer $55 in costs. While it is not possible to precisely know how many tokens will be used to achieve this outcome (and token usage will likely vary dramatically across Enterprise use cases), we can ground ourselves in some helpful math.

One analysis suggests that a single AI Agent may consume ~15x the tokens relative to a query-based usage of a LLM. A typical query based usage of a LLM would consume ~5,000 tokens. If an Enterprise customer used 5-7 AI Agents to execute an economic task, the token usage would be 375,000-525,000 tokens. Token pricing can be found here — you will see that pricing can range widely, among models and between input and output tokens. At an assumed average token price of $3-10 (in general, input tokens will outweigh output tokens, but this is not always the case), the cost to execute the economic task would be $2-5, a fraction of the $55 benefit. From the perspective of the LLM developer, based on token pricing that is publicly available, our Blackwell data center would generate margins of ~60%, factoring in all data center costs (but not the cost to develop the LLM). Interestingly, when we run the same math for Rubin and Feynman data centers, the margins would rise to ~80% and 90%, respectively. This suggests that, in the future, token pricing could fall as the share of global compute is comprised of increasingly capable chips.

Exhibit 3: Increasingly Capable Chips Increase Our Projected Margins from 58% to 90%.



Source: Morgan Stanley Research

Stepping Back and Comparing Bitcoin-to-DC Value Creation to Power Plant Development

The math relating to "time to power" contracts are not fully understood by the market, in terms of ultimate impacts to shareholders. For example, the powerful magnifying effects of long-term contracts with investment grade hyperscalers is not fully appreciated. The analogy here would be to renewables contracts with investment grade tech sector customers. It would not be unusual to see a 15- to 25-year Power Purchase Agreement (PPA) signed for solar power to have an unlevered Free Cash Flow (FCF) yield of 9%. Such a project would typically cost ~$2/watt, and these projects can often be levered at 80-90% at the project level, resulting in levered equity returns in the mid- to high-teens. This, in our view, is an attractive ROE, given the low-risk, long-term nature of the contracted cash flows. What is so striking to us is how attractive the "powered shell" data center contracts are, and how misunderstood this value creation is. For example, several Bitcoin companies have recently signed agreements in which they will build data center "powered shells" at $10-12/watt, with 15- to 25-year, fixed price contracts (with escalators), at unlevered FCF yields of 15-19%. These contracts will generate extremely attractive returns, in our view, and the Bitcoin stocks do not reflect this value creation. The following table walks through the math:

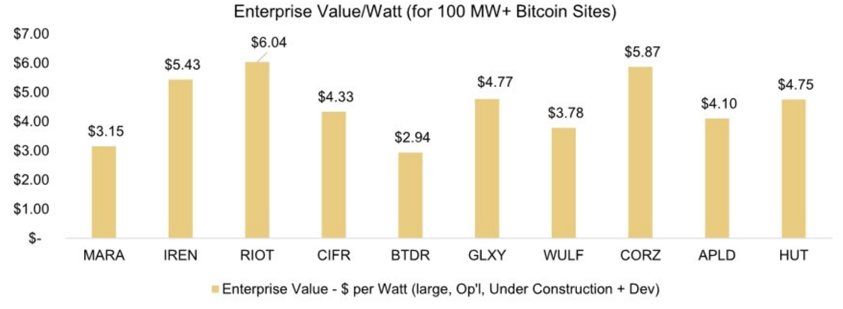
Exhibit 4: Value Creation Comparison: Renewable PPAs and Data Center Powered Shell Leases

	Renewable PPAs	Data Center "Powered Shell" Leases
Cost/watt to build	$1.50-2/watt	$10-12/watt, with a few brownfield projects at a lower cost
Unlevered FCF yield on capex	Varies, but 10% would be a typical level	Typically 15-19%
Leverage potential (typically project level)	80%+	80%+
At 15x EV/EBITDA, value creation potential	$1.00/watt on a project costing $2/watt (math is: ($2 * .1 * 15x) - $2 cost) - this is a 50% net value creation on aggregate investment, or a >200% value creation on the equity portion of the investment, assuming 80% leverage	For a $10/watt project cost and a 17% unlevered ield, net value creation would be $15.50/watt (math is: ($10 * .17 * 15x) - $10 cost) - this is a 155% net value creation on aggregate investment, or a >700% value creation on the equity portion of the investment, assuming 80% leverage
Net value creation per gigawatt ($m)	$1,000	$15,500
Net value creation as a % of equity invested	250%	775%

Source: Morgan Stanley Research

What is striking about this comparison: the value creation per gigawatt is ~15x higher for the powered shell relative to the renewable project (with much greater capex required for the powered shell), and the value creation as a percentage of the equity investment is also much higher for the power shell. Investment implications: we believe the Bitcoin stocks whose management teams are building out data center capacity for hyperscalers are not properly pricing in the value creation benefit - the following chart shows the EV/watt multiple for the Bitcoin stocks (keeping in mind the example transaction in the prior exhibit generated $15.50/watt in net value):

Exhibit 5: EV/Watt Ranges from $2.94 to $6.04 for BTC-to-HPC Companies



Source: Morgan Stanley Research

Please click here to request our latest Intelligence Factory model.

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Risk Reward – Cipher Mining Inc. (CIFR.O)

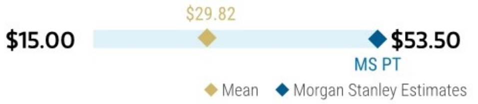
HPC Data Center Conversions

PRICE TARGET $53.50

We assume a moderately lower cash flow yield on future Bitcoin-to-DC projects, based on the comparable transaction history in which CIFR's contracted cash flow yields are lower than WULF's.

- HPC leases: Discounted NAV
- Bitcoin Mining Capacity: EV/Watt
- Pipeline Sites (50% Probability of Energization): Discounted NAV

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

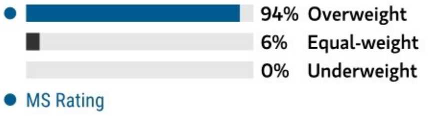
RISK REWARD CHART

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

Our approach is similar to the approach we take with WULF, though we assume a moderately lower cash flow yield on future Bitcoin-to-DC projects, based on the comparable transaction history in which CIFR's contracted cash flow yields are lower than WULF's.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

New Data Era: *Positive*

View descriptions of Risk Rewards Themes here

BULL CASE $71.00

75% probability of energization

In our bull case, we assume the success rate rises to 75%.

BASE CASE $53.50

50% probability of energization

In our base case, we value the existing Bitcoin-to-DC projects based on our "REIT endgame" valuation framework. We project that the company will successfully convert the other sites that currently do not have a Bitcoin-to-DC contract, at a present value that equates to ~$10.50/watt. We also assume that management achieves a 50% success rate in executing DC transactions for the company's pipeline of development assets.

BEAR CASE $11.00

0% probability of energization

In our bear case we assume the existing contracts, plus a very low value assigned to other assets ($2/watt, much lower than the ~$9-13/watt of value created from precedent conversion transactions) and no other Bitcoin-to-DC conversion transactions.

Risk Reward – Cipher Mining Inc. (CIFR.O)

KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
Total Capacity (EH/s)	15.6	11.6	11.6	11.6
Revenue - Bitcoin mining ($, mm)	219	121	101	53
Total HPC Revenue ($, mm)	0	114	688	775
Operating profit ($, mm)	(422)	(287)	(18)	(73)
Operating margin (%) (%)	(188.2)	(123.4)	(2.2)	(8.8)

INVESTMENT DRIVERS

- The magnitude of improvement in AI capabilities will continue to increase at a non-linear rate
- The value creation for both AI Adopters and AI Enablers is high
- The demand for compute is likely to be systematically much higher than the supply

GLOBAL REVENUE EXPOSURE

Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies here

MS ALPHA MODELS

5/5 **BEST**	24 Month Horizon	5/5 **MOST**	3 Month Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Lease economics could fall short of $/watt assumptions.
- Delays/cost overruns may pressure campus returns.
- Failure to monetize HPC pipeline would limit valuation upside.

RISKS TO DOWNSIDE

- Future hyperscaler leases could move CIFR toward consistent $13-18/watt value creation.
- Black Pearl conversion and IT-load gains could lift pipeline value.
- Faster monetization of the 3.4GW HPC pipeline could raise valuation upside.

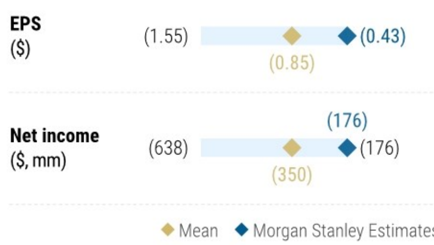
OWNERSHIP POSITIONING

Inst. Owners, % Active	57.5%
HF Sector Long/Short Ratio	2x
HF Sector Net Exposure	25.3%

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure – Short Exposure).

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e



Source: Refinitiv, Morgan Stanley Research

Risk Reward – TeraWulf Inc (WULF.O)

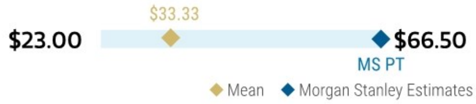
Digital Infrastructure Focus

PRICE TARGET $66.50

TeraWulf has a strong track record of signing agreements with data center customers, and the management team has extensive experience in building a wide range of power infrastructure assets.

- HPC Leases: Discounted NAV
- Other Owned Sites: EV/Watt
- 50% probability of 250 MW Deployed p.a. 2028-2032: Discounted NAV

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART

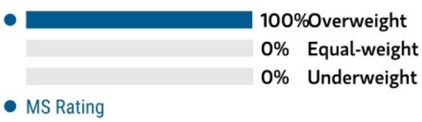
Key: Historical Stock Performance, Current Stock Price, Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

TeraWulf (WULF) remains a strong pick: despite strong stock performance, our base case price target recognizes the opportunity for a tripling (at ~200% upside). Underpinning our conviction is the company's history of successfully building and acquiring power infrastructure and track record of multiple repeat Bitcoin-to-DC conversion transactions with customers. In our view, the company has a viable path to continued, significant annual growth in power and data center capacity, and we include this growth potential in both our base and bull cases.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

New Data Era: *Positive*

View descriptions of Risk Rewards Themes here

BULL CASE $103.00

75% probability of energization

In our bull case, we assume the success rate rises to 75%, on the high end of annual project growth of 500 MW/year in 2028-32.

BASE CASE $66.50

50% probability of energization

In our base case, we value the existing Bitcoin-to-DC projects based on our "REIT endgame" valuation framework. We project that the company will successfully convert the 2,550 MWs that currently do not have a Bitcoin-to-DC contract, at a present value that equates to ~$11.50/watt. We also assume that management achieves a 50% success rate in achieving the lower end of its targeted annual DC project growth of 250 MW/year in 2028-32.

BEAR CASE $15.00

0% probability of energization

WULF downside is limited by the significant value associated with existing contracts. In our bear case we include the value from the existing contracts, plus a very low value assigned to other assets ($2/watt, much lower than the $9-13/watt of value created from precedent conversion transactions) and no other Bitcoin-to-DC conversion transactions.

Risk Reward – TeraWulf Inc (WULF.O)

KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
Digital Assets ($, mm)	151.6	99.3	119.4	70.7
HPC Lease Revenue ($, mm)	24.1	406.5	936.3	964.3
Operating profit ($, mm)	(186.2)	(95.8)	289.8	279.8
GAAP operating margin (%) (%)	(110.5)	(18.9)	27.4	27.0
Adjusted EBITDA ($, mm)	(24.6)	309.6	885.1	863.5

INVESTMENT DRIVERS

- The magnitude of improvement in AI capabilities will continue to increase at a non-linear rate
- The value creation for both AI Adopters and AI Enablers is high
- The demand for compute is likely to be systematically much higher than the supply

GLOBAL REVENUE EXPOSURE

100% North America

Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies here

MS ALPHA MODELS

5/5 **BEST**	24 Month Horizon	4/5 **MOST**	3 Month Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Additional acquisitions could lift pipeline value beyond the 2,550 MW base case.
- AI customer agreements could validate the BTC-to-HPC pivot faster than modeled.
- Management adding >250MW of critical IT load annually could drive revenue and valuation upside.

RISKS TO DOWNSIDE

- We view a slowdown in AI spend as the largest single risk.
- Execution risks on construction could result in project delays and cost overruns.

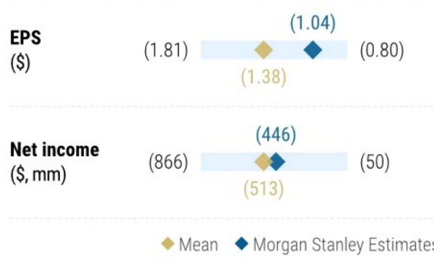
OWNERSHIP POSITIONING

Inst. Owners, % Active	57.4%
HF Sector Long/Short Ratio	2x
HF Sector Net Exposure	25.3%

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure – Short Exposure).

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e



Source: Refinitiv, Morgan Stanley Research

Risk Reward Reference links

1. View explanation of Options Probabilities methodology - Options_Probabilities_Exhibit_Link.pdf

2. View descriptions of Risk Rewards Themes - RR_Themes_Exhibit_Link.pdf

3. View explanation of regional hierarchies - GEG_Exhibit_Link.pdf

4. View explanation of Theme/Exposure methodology - ESG_Sustainable_Solutions_External_Link.pdf

5. View explanation of HERS methodology - ESG_HERS_External_Link.pdf

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(as of May 31, 2026)

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	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1542	42%	465	51%	30%	707	43%
Equal-weight/Hold	1571	43%	369	40%	23%	723	44%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	551	15%	86	9%	16%	201	12%
Total	3,667		920			1632	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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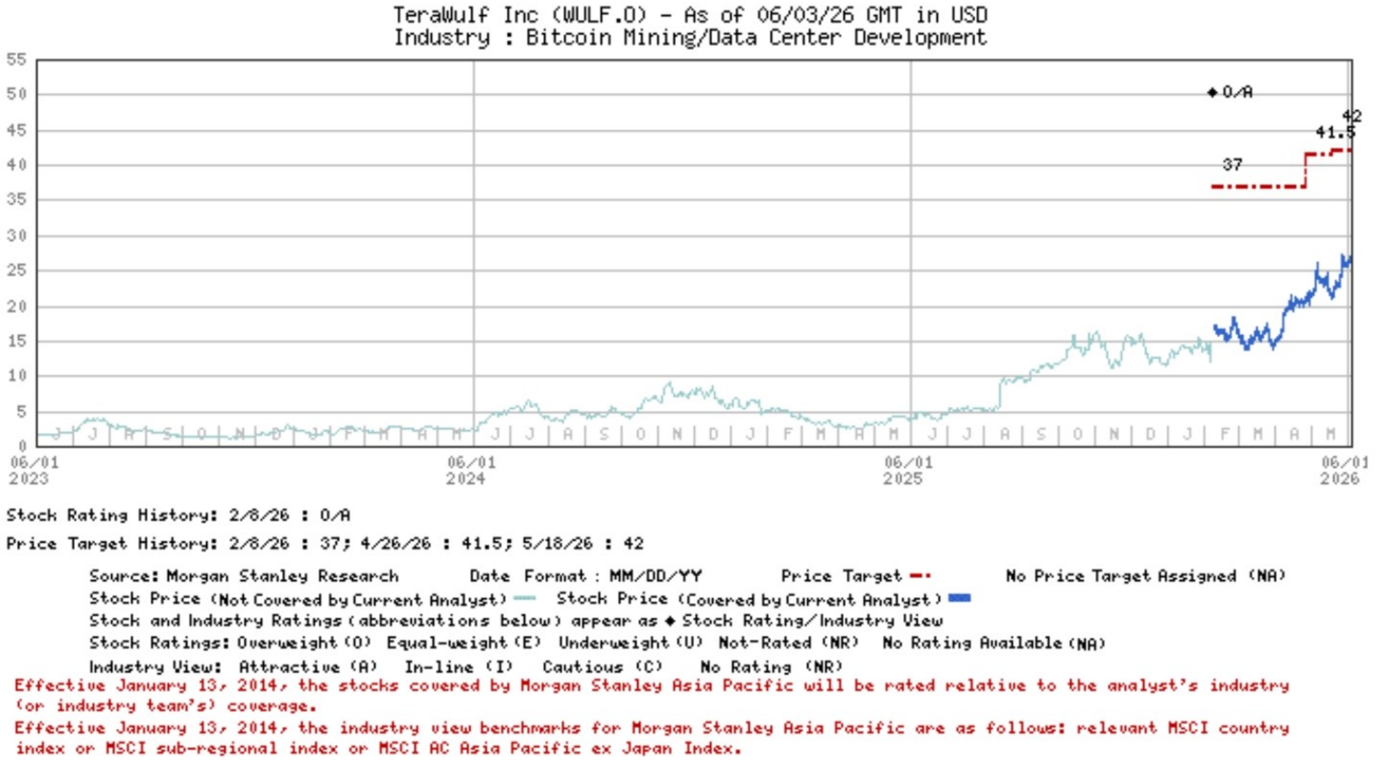
Stock Price, Price Target and Rating History (See Rating Definitions)



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INDUSTRY COVERAGE: Bitcoin Mining/Data Center Development

COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/02/2026)
Stephen C Byrd		
Cipher Mining Inc. (CIFR.O)	O (02/08/2026)	$26.29
Mara Holdings Inc. (MARA.O)	U (02/08/2026)	$14.28
TeraWulf Inc (WULF.O)	O (02/08/2026)	$26.49

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