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Hashlabs Research

Bitcoin Mining Ease to Mine Index - EMI

Assessing Regulatory, Energy, & Operational Conditions For Bitcoin Mining Worldwide

FIRST EDITION

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Framework Methodology

Introduction

Between December 2025 to February 2026, Hashlabs conducted an online survey targeting a broad range of stakeholders within the Bitcoin mining ecosystem, including industrial miners, mining associations, industry journalists, and other experts.

This survey covered a total of five sections: legal, fiscal, energy & electricity grids, permitting & licensing and tariffs and customs procedures. The climate aspect is a separate section based on an internal analysis. In total, 33 questions were asked across these sections, combining quantitative metrics with qualitative assessments to capture both measurable conditions and practitioner insights. To strengthen the robustness of the dataset, responses were reviewed for internal consistency and potential reporting bias. In addition, follow-up semi-structured interviews were conducted with selected respondents to validate survey findings, clarify ambiguities, and provide deeper contextual understanding of country-specific conditions.

Overall, 48 respondents contributed to the survey, enabling the coverage of 18 countries in this first edition.

Methodology

To assess the relative attractiveness of countries for mining, each survey response was converted into a normalized score on a scale ranging from 0 (most unfavorable operating conditions) to 1 (most favorable conditions).

The scoring scale was intentionally non-linear and arbitrarily weighted for two principal reasons. First, not all variables exert the same operational or economic impact. For example, access to energy subsidies may have a limited impact compared to an electricity tax. Second, the survey incorporated questions with varying degrees of granularity, including binary (yes/no) responses and ordinal rankings (e.g., very low to very high). To mitigate the loss of nuance inherent in binary responses, less extreme score values were assigned to yes/no questions, while more granular ranking-based questions were mapped to a broader score distribution.

While question-level weights varied within each analytical pillar, all 6 sections - legal (17.5%), fiscal (20.0%), energy and grid conditions (25.0%), permitting and licensing (17.5%), tariff and customs framework (15.0%) and climate conditions (5.0%) - were assigned different weights in the final index. This reflects the view that each pillar do not exercise the same influence on mining sustainability.

Climate Operating Conditions – Beyond survey scope

This section examines the climate conditions of a given region as a primary determinant of a mining site performance and viability. It relies on simplified indicators - humidity, diurnal temperature spread, and seasonal (winter/summer) temperatures - to characterize the operating environment across key mining regions. For each country, the analysis focuses on the main mining hubs identified.
Climatic conditions vary significantly across and within countries: while some exhibit relatively uniform weather patterns, others show pronounced regional disparities in temperature or humidity. Historically,

operators have successfully leveraged cold climates and mitigated humidity through infrastructure and operational adjustments. Diurnal temperature variation generally has a limited impact, although it may require additional cooling or thermal management to maintain stable operating conditions.

That said, extreme humidity, large diurnal spreads, or harsh winter conditions can materially affect reliability and break machines if not properly addressed. Among all climate variables, peak summer temperatures remain the most critical factor in assessing ASIC operating suitability. Altitude also deserves careful attention, as sites in high altitude can negatively impact ASIC performance and longevity without appropriate site design and maintenance practices (e.g., Kenya, Chile, Ethiopia, Democratic Republic of the Congo).

Survey Outputs

Report results presented at the country level reflect averages, or mean range, derived from multiple respondent contributions per country. As a result, certain quantitative indicators may exhibit a wide range of values - for example, construction permit lead times, which can vary significantly depending on project size and local regulatory processes.

All findings in this report are based on respondents' inputs. When specific information is not directly provided by respondents, external sources are used and explicitly cited.

Score Interpretation

A country with neutral mining conditions typically scores around 0.50. Favorable environments are close to 0.60, while highly favorable jurisdictions are around 0.70. Conversely, highly unfavorable jurisdictions score below 0.30, and conditions are considered broadly unfavorable when score is around 0.40.

Complementary Notes

All references to "$" denote United States dollars (USD). When figures are expressed in a foreign currency, the corresponding currency acronym is explicitly indicated alongside the value (e.g., CAD 120M).

Figures followed by an "M" are expressed in millions (e.g., $500M represents 500 million USD).

ASIC (application-specific integrated circuit) refers to mining machines.

EIA refers to environmental impact assessment sometimes required for data center construction.

CIT is corporate income tax.

Key Takeaways

Introducing the first edition of the Ease to Mine Index (EMI), a composite framework designed to assess the overall attractiveness of jurisdictions for bitcoin mining. The index evaluates a broad set of dimensions, including legal and fiscal frameworks, permitting and licensing conditions, energy market structure and grid access, climate characteristics, as well as tariff and import environments.

While mining analysis traditionally emphasizes operational metrics - such as power costs and hashprice - regulatory conditions are often underweighted. By integrating both operational and regulatory perspectives, the EMI conveys a more holistic assessment of mining sustainability. The index covers 18 countries, spanning the world's most established mining regions (excluding China) while also including emerging and under-researched markets such as the Democratic Republic of the Congo, Kenya and Chile.

Country	Index Score	Fiscal	Permit & Licensing	Legal	Energy & Grid	Customs & Tariffs	Operating conditions
Alberta (CA)	**0.53**	0.54	0.36	0.82	0.30	0.73	0.67
Argentina	**0.57**	0.54	0.59	0.71	0.42	0.67	0.58
Australia	**0.28**	0.37	0.19	0.09	0.28	0.47	0.36
Brazil	**0.54**	0.50	0.63	0.53	0.49	0.54	0.68
Chile	**0.44**	0.66	0.50	0.50	0.18	0.46	0.41
DRC	**0.46**	0.43	0.87	0.50	0.27	0.20	0.73
Ethiopia	**0.51**	0.43	0.60	0.37	0.61	0.57	0.42
Finland	**0.47**	0.33	0.56	0.25	0.50	0.64	0.80
Iceland	**0.60**	0.63	0.60	0.75	0.47	0.55	0.83
Kazakhstan	**0.47**	0.46	0.65	0.64	0.20	0.55	0.37
Kenya	**0.47**	0.53	0.64	0.50	0.30	0.39	0.57
Norway	**0.51**	0.46	0.44	0.34	0.57	0.66	0.78
Oman	**0.75**	0.81	0.79	0.88	0.58	0.89	0.38
Paraguay	**0.57**	0.56	0.51	0.54	0.54	0.78	0.41
Québec (CA)	**0.55**	0.58	0.37	0.50	0.51	0.80	0.68
Russia	**0.51**	0.47	0.51	0.45	0.47	0.61	0.69
Sweden	**0.45**	0.17	0.57	0.25	0.60	0.59	0.76
Texas (U.S.)	**0.56**	0.60	0.49	0.71	0.51	0.53	0.36
UAE	**0.71**	0.79	0.65	0.88	0.59	0.80	0.26

Highly unfavorable environment

Australia is the weakest performer in the index, scoring 0.28, driven primarily by stringent environmental regulations that weigh heavily on both the legal framework and permitting process, alongside a structurally high-cost electricity market ($55.0 – $65.0/MWh) and unfavorable operating environment.

Slightly unfavorable environment

Chile (0.44) benefits from a more modern grid and a supportive stance toward data centers, including fiscal incentives, but high power costs ($55.0 – $65.0/MWh), bureaucracy on interconnection procedures (> 24 months to secure a grid connection), and elevated tariffs materially weigh on mining sustainability.

Sweden (0.45) despite a highly favorable climate conditions - particularly for hydro-cooled systems - and access to competitive power rates ($35.0–$42.5/MWh), Sweden has implemented a series of measures to halt industry development. These include a substantial electricity tax (~$39.9/MWh) and the retroactive application of VAT on imported ASICs, massively increasing the fiscal burden on miners.

In the Democratic Republic of the Congo (0.46) and Kenya (0.47) constraints are primarily driven by unreliable grid infrastructure and punitive import conditions. However, off-grid installations can still offer highly attractive power rates (< $35.0/MWh), albeit limited to small-scale deployments.

Neutral environment

Kazakhstan (0.47) has eased its mining policy and appears increasingly supportive of the sector, despite long grid interconnection timelines and relatively high electricity prices ($55.0 - $65.0/MWh).

In the Nordics, Finland (0.47) and Norway (0.51) boast a highly favorable climate especially for hydro-cooling solutions. Norwegian miners can access direct electricity rates below the industry median (at $45.0/MWh) - contrasting with slightly higher-than-median rates in Finland – both countries have introduced electricity taxes targeting miners or data centers. Fiscal headwinds are further intensified by the retroactive application of VAT on imported ASICs in Finland.

Ethiopia (0.51) has reversed earlier pro-mining incentives - suspending new permits in 2024, implementing incremental power tariff increases through 2028 - breaking with attractive historical power rates ($22.0/MWh) - and considering a greater state role via profit-sharing mechanisms similar to Bhutan.

Russia (0.51) is quite neutral despite the multiplication of regional bans. Historically, the country's large energy surplus and absence of import tariffs fostered a welcoming environment. However, mining is restricted to Russian entities since 2024. In parallel, electricity costs have risen steadily, reaching a less favorable range of $55.0 – $65.0/MWh, compared with levels closer to the industry median ($45.0/MWh) in prior years.

Slightly favorable environment

Brazil (0.54) is undergoing structural shifts, particularly in fiscal and energy policy, which could materially accelerate or constrain mining growth. Permitting and zoning requirements remain light for data center development, and behind-the-meter solutions may scale quickly given abundant wind and solar capacity.

However, the import process is a critical risk factor, as customs delays and high taxes can erode economics unless actively managed through local expertise, legal structuring, and customs brokers.

Alberta (0.53) and Québec (0.55) benefit from favorable climate conditions and the absence of import tariffs representing a meaningful advantage for miners. However, both provinces face stringent environmental regulations affecting data center development. These constraints have contributed to prolonged grid interconnection timelines in Alberta (> 24 months), while Québec imposed a punitive tax on power.

In the U.S. (0.56), using Texas as a proxy, legal and fiscal frameworks remain favorable for miners. However, the worldwide mining hub has been materially impacted by recent tariff increases and intensifying competition in the energy market, particularly from AI and HPC workloads that offer higher revenue per megawatt.

Paraguay (0.57) is king in Latin America, supported by the Itaipu Dam's substantial energy surplus, which provides miners with access to highly competitive electricity rates. However, this advantage could erode with the next round of power tariff increases. In contrast, the fiscal framework remains favorable, with multiple incentives in place, and low import custom duties continue to provide a meaningful edge.

Argentina (0.57) has established a slightly favorable environment, notably by cutting import tariffs and allowing VAT reimbursement. Grid power rates are slightly above the industry median ($47.5 - $55.0/MWh), while off-grid operations - particularly in Vaca Muerta leveraging stranded gas - can secure highly competitive prices (< $35.0/MWh), but elevated barriers to entry the energy market remain. Permitting and licensing requirements are soft, particularly in remote areas, but zoning constraints can rapidly elevates depending on the province.

Favorable environment

Iceland (0.60) offers a favorable framework for data centers supporting the mining industry, though competition from AI data centers may intensify given the country's limited power expansion capacity. Permitting constraints remain low, as mining activity is largely concentrated in low population density areas.

Highly favorable environment

The UAE (0.71) has recently emerged as the leading mining hub in the Middle East by hashrate, despite climate conditions being particularly harsh due to extreme heat. The industry is strongly supported by fiscal incentives, no tariffs, tax exemptions, and minimal permitting and zoning constraints. Attractive electricity rates ($42.5 - $47.5/MWh) and rapid grid connection timelines (6 – 12 months) further enhance the country's attractiveness for mining development.

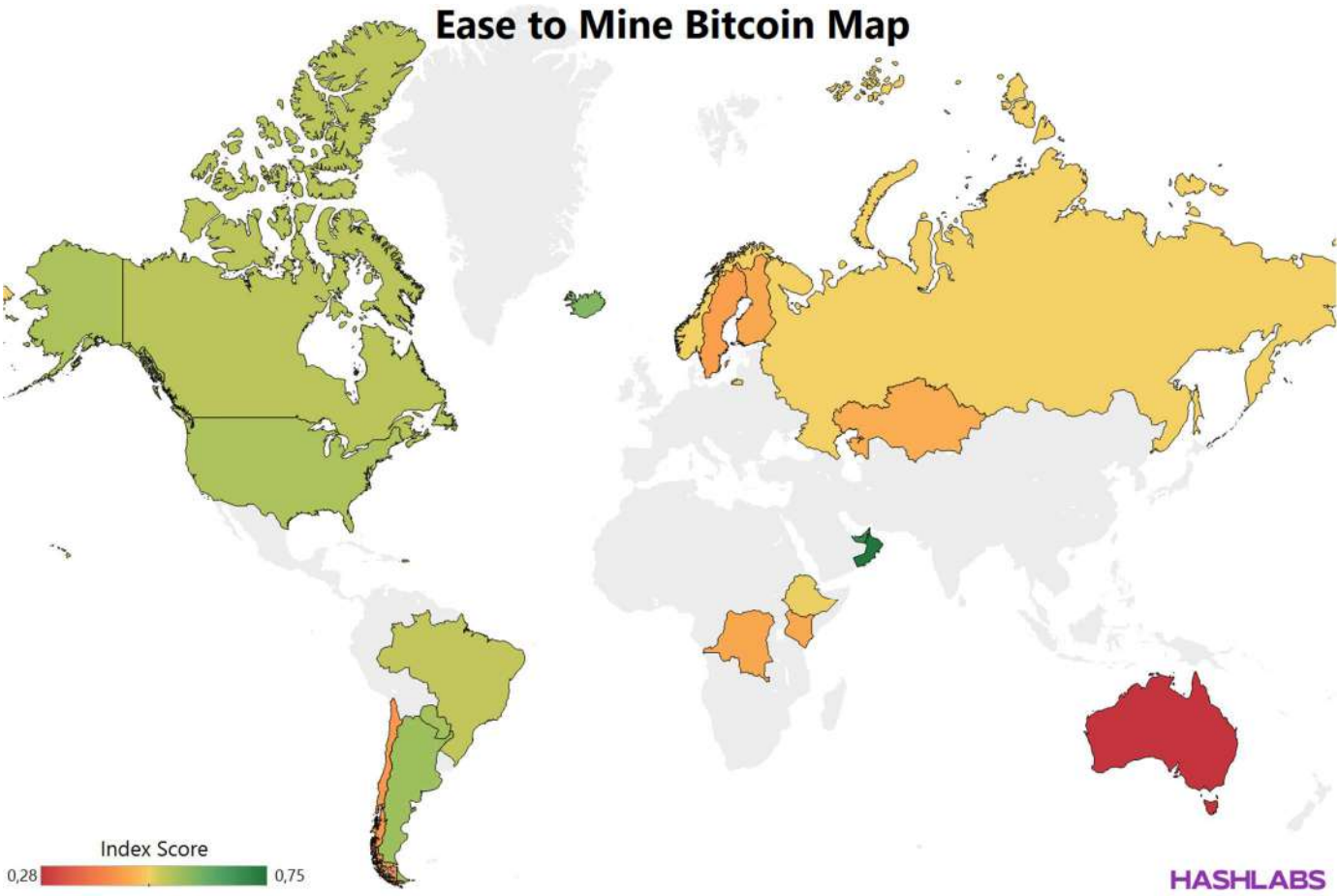
Oman (0.75) offers a highly favorable environment for mining. While the operating climate is challenging due to extreme temperatures, ASIC infrastructure can be engineered to operate reliably under these conditions. The country strongly supports the sector, exemplified by its ownership of a state-run mining facility. Fiscal incentives are marked by numerous abatments, subsidies and tariff exemptions within multiple free zones. Meanwhile miners can access competitive electricity rates ($38.5 – $45.0/MWh), and

grid interconnection can be secured relatively quickly (6 - 12 months), with minimal permitting or zoning restrictions.

Ease to Mine Bitcoin Map

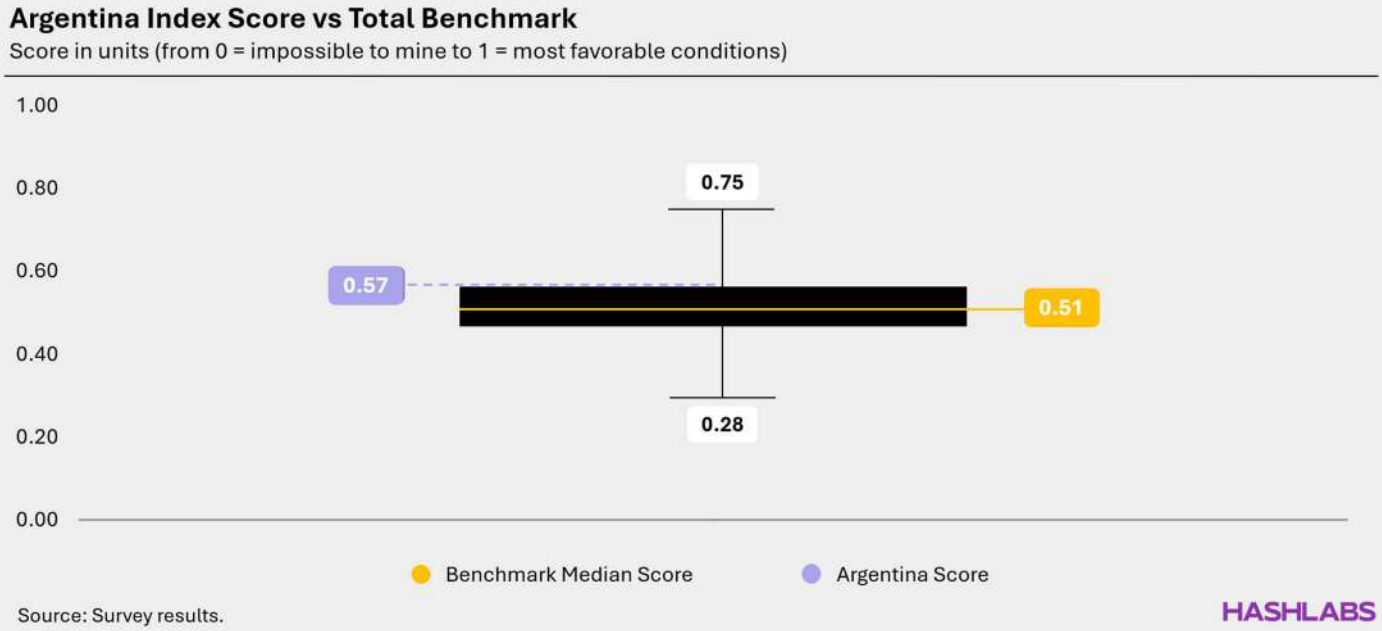
Over the time we aim at updating this map to reflects the change of the regulatory framework and operating conditions in those countries, and later include additional countries with geopolitical, industry and exogenous factors changes.

Canada's score represents the average of Alberta and Québec, while the U.S. score uses Texas as a proxy.



Country-Level Analysis

Argentina



Argentina (0.57) offers a moderately favorable environment for mining. While no dedicated legal framework exists, the sector is tolerated, with strong development around gas flaring projects in Vaca Muerta. The fiscal regime is broadly neutral, with some tax optimization flexibility. Permitting is relatively flexible overall, though zoning for data centers can be restrictive depending on the province. Energy access is mixed: off-grid flare gas projects provide highly competitive rates (< $35.0/MWh), while grid-connected power remains above the industry median ($47.5 - 55.0/MWh). Grid connection timelines are favorable, averaging 12 months. The import framework has improved following tariff reductions and availability of effective mitigation mechanisms on import frictions. Climate conditions in Vaca Muerta are neutral, though hot summers and wide diurnal temperature spreads may require additional cooling adjustments to protect ASIC performance.

TLDR Legal Framework

- Current legal environment is neutral for miners.
- Future regulatory framework is expected to become more favorable.
- Power reform to liberalize the electricity market may favorable impact miners.
- No specific mining framework, but remains legal in the country with significant off-grid operations.

TLDR Fiscal Framework

- Neutral tax regime with ability to shift the profit center abroad.
- Subsidies or fiscal incentives available for miners or data centers.

- There is no electricity tax.
- Moderate level of constraints to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- No operating license requirement for miners but mandatory registration with AFIP.
- Construction permits are secured in 6 months.
- EIA requirements are low for new data center construction.
- Water-use permits is restrictive on data centers build outs.
- Emissions, heat and noise compliance level is highly variable for mining operations.
- Zoning restrictions have no impact on land availability.

TLDR Energy Regulation & Grid Access

- Important barriers to entry for energy market participation or grid interconnection
- Grid connection lead times are ranging from 9 - 15 months.
- Electricity costs on off-grid sites are lower than the median (< $35.0/MWh) and slightly above the median when connected to the grid ($47.5 – 55.0/MWh).
- Flare gas mitigation is a large opportunity for miners in the country.

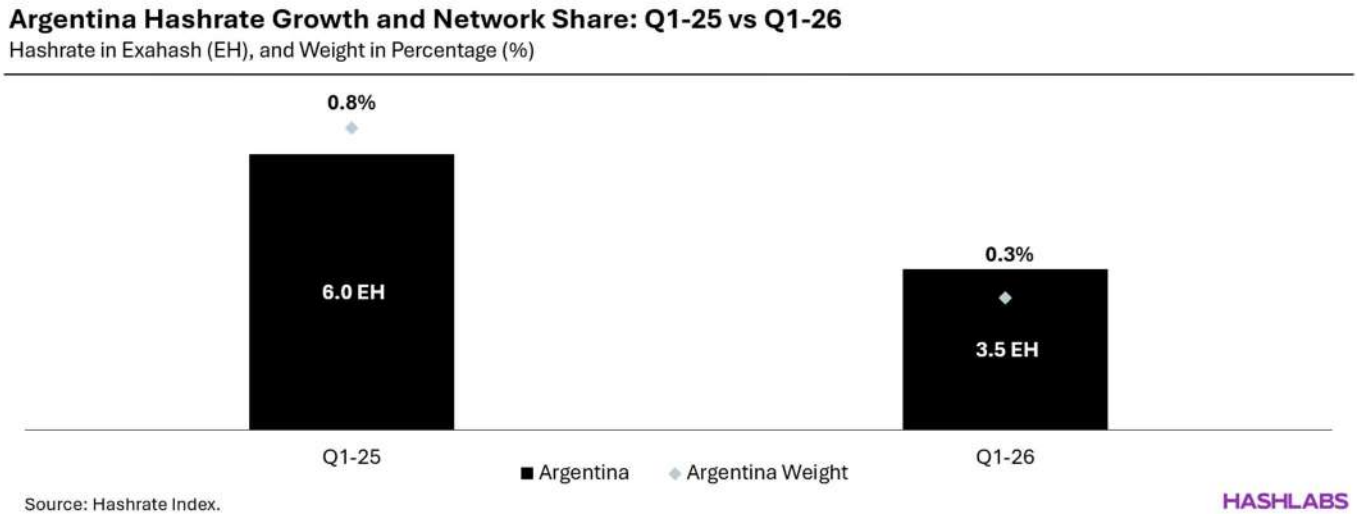
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 27.0% VAT and can be refunded.
- ASIC imports require a license and are exposed to tariffs at 11.0% (excluding VAT).
- Import procedures are unfavorable for ASICs and slightly unfavorable electrical infrastructure.
- Electrical equipment lead times have affected mining energization timelines (1 - 5 months).
- Mitigation mechanisms on import constraints are effective to accelerate deliveries or avoid tariffs.

TLDR Climate Operating Conditions – Vaca Muerta

- Favorable temperatures level in winter but slightly unfavorable in summer (>30°C).
- Significant diurnal temperatures spread in summer (4°C to 33°C).
- Highly favorable humidity level 65.0%.

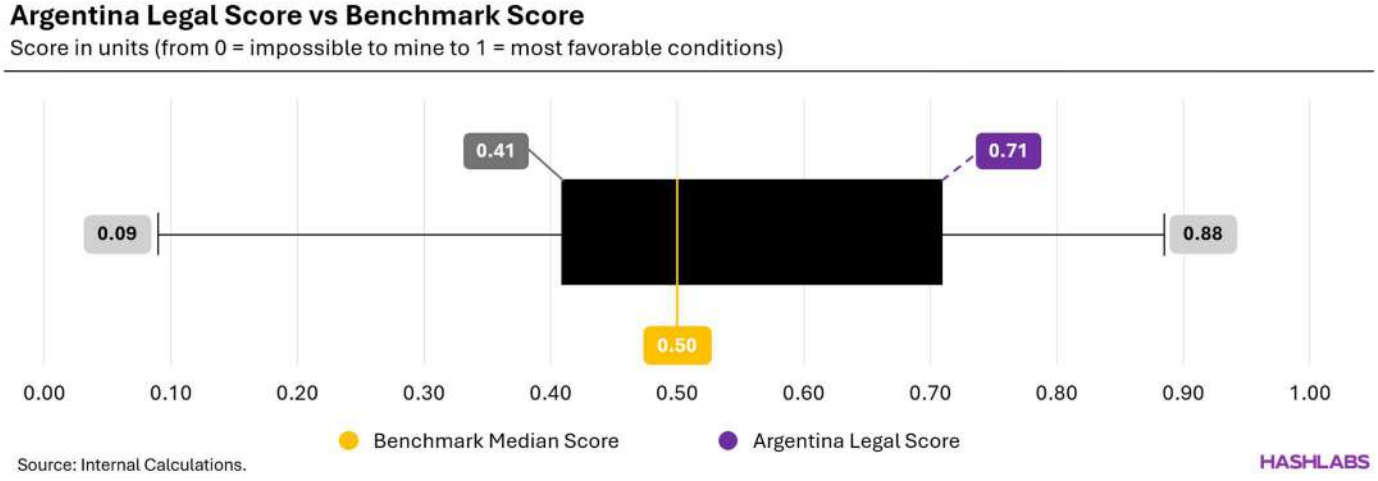
Argentina Footprint



Nearly half of Argentina hashrate was shut down from 6.0 EH in Q1-25 to 3.5 EH in Q1-26, while no specific regulatory or tax framework influenced this removal (most likely due to Bitfarms exit) actual operating hashrate could be understated. Ongoing power sector reform to liberalize the market could actually see miners footprint recover, however, political stability will be a key factor to the growth of the mining footprint in the country.

Legal Framework

Argentina's legal framework ranks 5th out of 18 countries, with a score of 0.71 against the benchmark average of 0.54 and the median of 0.50.



In Argentina, while progress has been made toward establishing a regulatory framework for digital assets—most notably through the creation[1] of a blockchain committee in 2022 and the introduction of a VASP regime for digital asset exchanges in 2024—no mining-specific regulation currently applies. Despite raids[2] against illegal mining operations in 2022, respondents characterize the present legal environment as marginally favorable, with potential for improvement in the coming years.

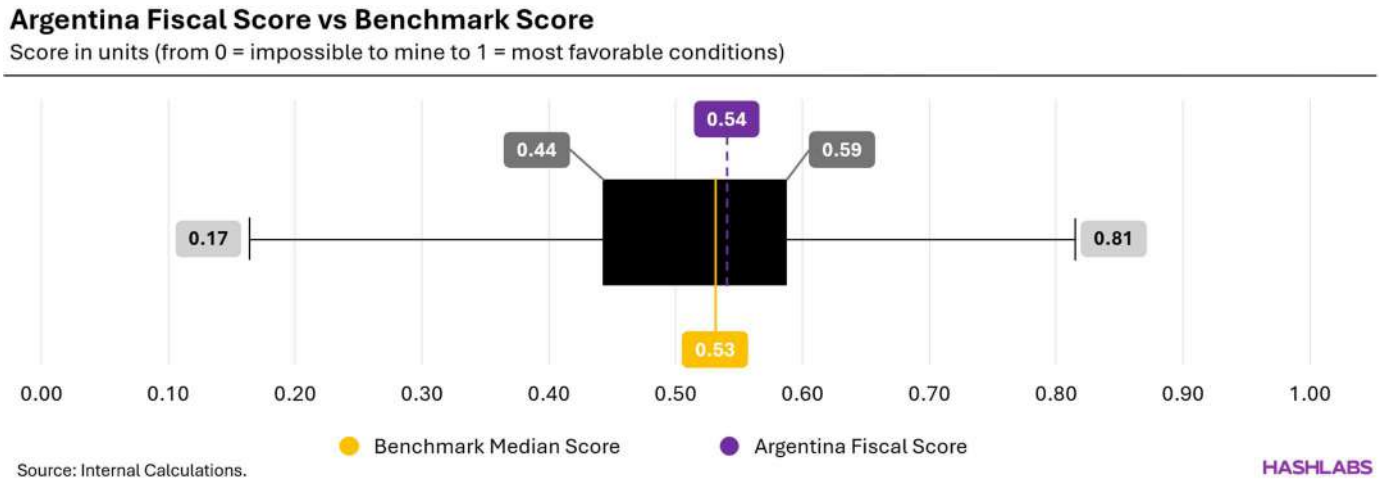
This outlook is reinforced by the policy shift toward market liberalization under President Javier Milei. Early signals of this shift have already materialized in the form of power sector reforms[3] aimed at opening

electricity markets, attracting private investment, and modernizing grid infrastructure—reversing decades of underinvestment and centralized control. In parrallel, tariff exemptions could strengthen the sector making miners much more competitive.

Bill	Description
National Blockchain Committee - 2022	The government set this committee to explore cryptocurrency legislation.
VASP Law n°27.739 - 2024	Virtual Asset Providers must register with the government and comply to AML rules. The National Securities Commission (CNV) is the primary regulator for VASPs.
Power reform - 2025	**Decree 450/2025 to liberalize the power market** structure: - Open the private and international participation allowing clear and predictable rules, and free choice of energy suppliers from consumers. - Large Consumers must source demand via PPA bypassing older state centralization. - The whole sale electricity market is opened to new participants (private producers, storage...).

Fiscal Framework

Argentina's fiscal framework ranks 8th out of 18 countries, with a score of 0.54 against the benchmark average of 0.52 and the median of 0.53.

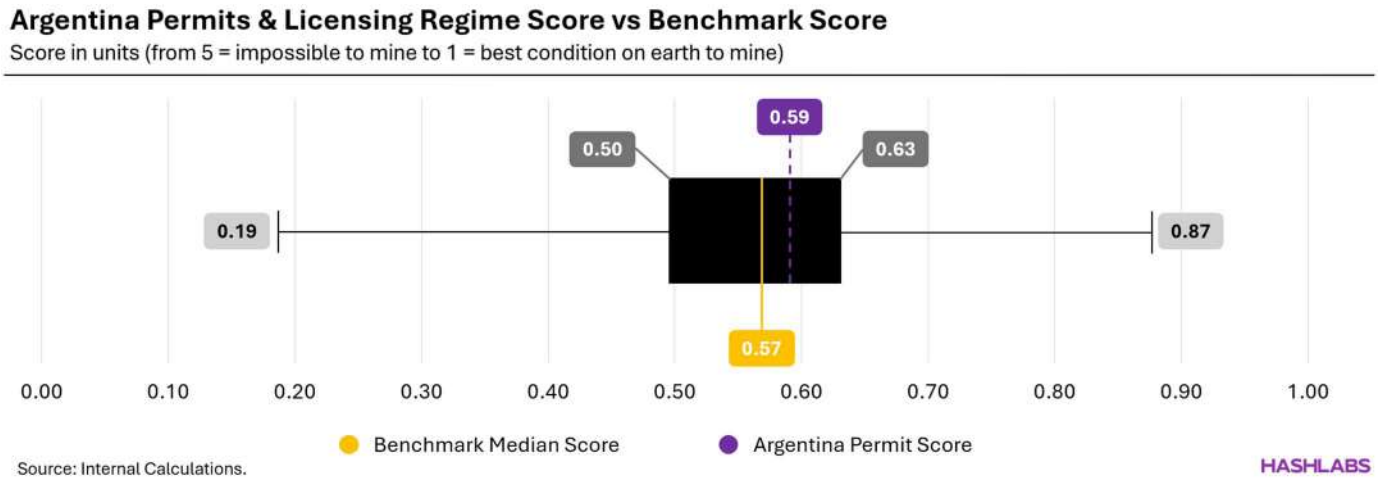


Argentina lacks a clear fiscal framework for mining, miners have not direct access to subsidies[4] but are benefiting from the incentive program provided to energy companies. It remains moderately difficult to avoid taxes, and no taxes apply power consumption. The ability to shift the profit center can help in reducing taxes.

Note that while there is no specific federal tax targeting mining, in December 2022 mining activity has been added to fiscal code[5] in Buenos Aires province recognizing officially bitcoin mining with the onset of a framework at a 4.0% tax rate (it applies on top of corporate tax income).

Permits & Licensing Regime

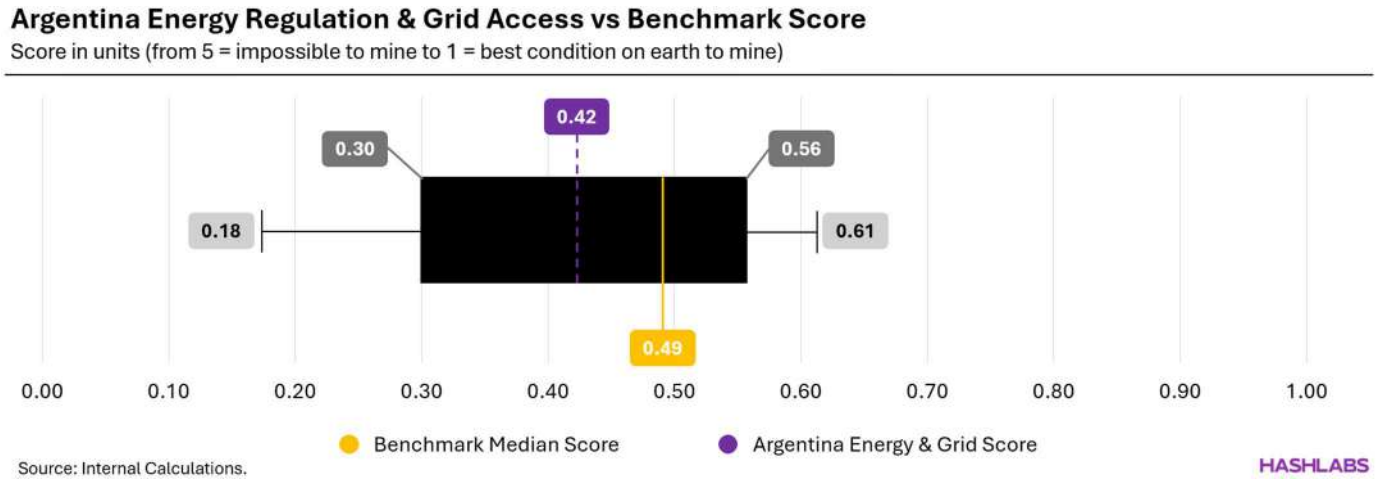
Argentina's permit & licensing framework ranks 9th out of 18 countries, with a score of 0.59 against the benchmark average of 0.55 and the median of 0.57.



In Argentina, a mining license is not required but there is a mandatory registration with relevant tax authorities (AFIP). Construction permit can involve extended lead times, 6 months on average. In addition, water-use permits, as well as regulations governing heat, noise, and emissions, are particularly restrictive for operations – but unrestrictive in more remote areas (such as Vaca Muerta). By contrast, the land availability for data center development is generally not constrained by zoning rules.

Energy Regulation and Grid Access

Argentina energy regulation and grid access ranks 12th out of 18 countries, with a score of 0.42 against the benchmark average of 0.44 and the median of 0.49.



Argentina's energy profile[6] is largely shaped by its substantial hydrocarbon endowment, ranking second globally in shale gas reserves and fourth in shale oil, primarily concentrated in the Vaca Muerta basin. As a result, the country's electricity generation mix remains heavily gas-centric, with natural gas accounting for approximately 48.9% of total generation, followed by hydropower (24.5%) and wind energy (10.6%).

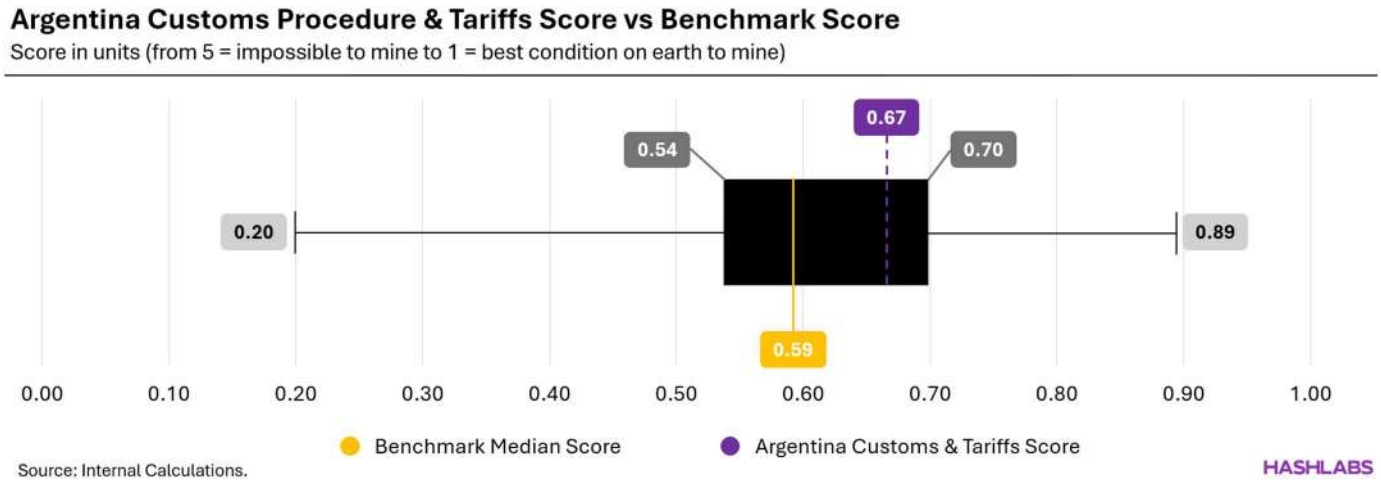
The scale of Argentina's oil and gas resources has enabled the emergence[7] of a gas-flaring mitigation–driven Bitcoin mining segment, particularly in the Vaca Muerta oilfield. These projects leverage otherwise

stranded or flared gas to generate electricity at very low marginal cost, offering miners access to highly competitive power pricing. Notably, state-owned energy entities[8] have also entered into partnerships with private mining operators. At this specific off-grid sites, power is below $35.0/MWh otherwise electricity can be secured at $47.5 - $55.0/MWh. When operating on-grid, connection require 12 months on average, but if you have contact in the electricity companies and documents for electrical safety, it can sharply accelerate procedures and lock connection in less than 6 months. Importantly, accessing Argentina energy market remains difficult.

Going forwards, Argentina's recent power sector reform is expected to structurally reshape the electricity market. The new framework introduces greater freedom of supplier choice and the ability to contract electricity through long-term power purchase agreements (PPAs). Moreover, the reform opens pathways for private actors to participate in the financing of transmission infrastructure, thereby unlocking stranded generation assets and making bitcoin mining central to the financing of the country electrical infrastructure.

Customs Procedure & Tariffs

Argentina tariffs and customs framework rank 5th out of 18 countries, with a score of 0.67 against the benchmark average of 0.60 and the median of 0.59.

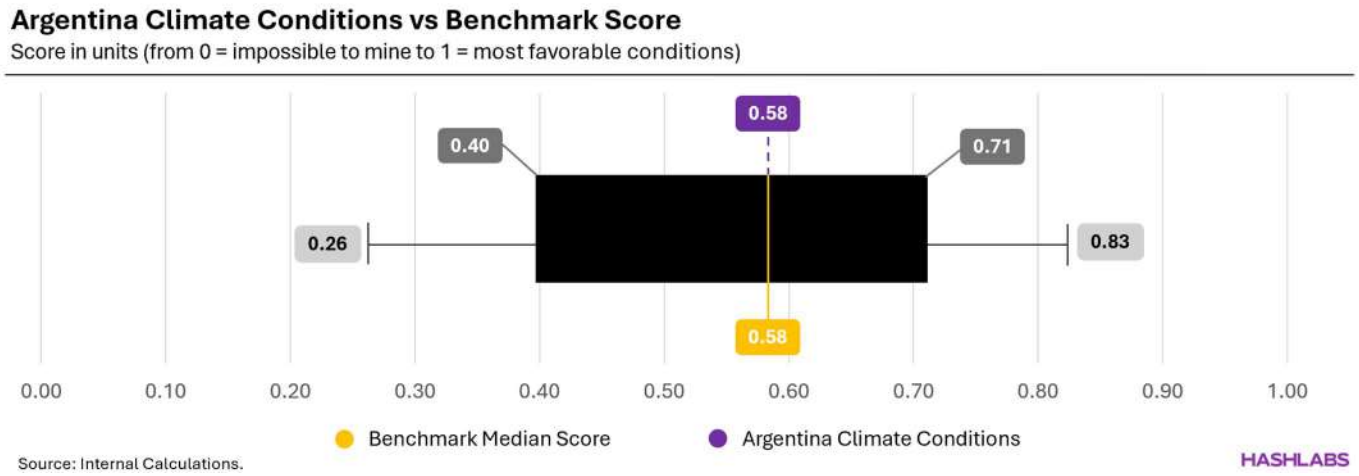


In Argentina, bureaucratic complexity is most pronounced in the import process. Respondents indicate that customs procedures are unfavorable for mining hardware and slightly unfavorable for electrical equipment. Over the past years administrative delays at customs have affected deployment and commissioning timelines. However, custom brokers with previous experience in mining are effective to mitigate this issue.

Additionally, ASIC imports are currently subject to an 11.0% tariff, while VAT is fully recoverable. This marks a significant policy shift, as miners were previously exposed to effective import burdens in the 50–80% range[9].

Climate Operating Conditions

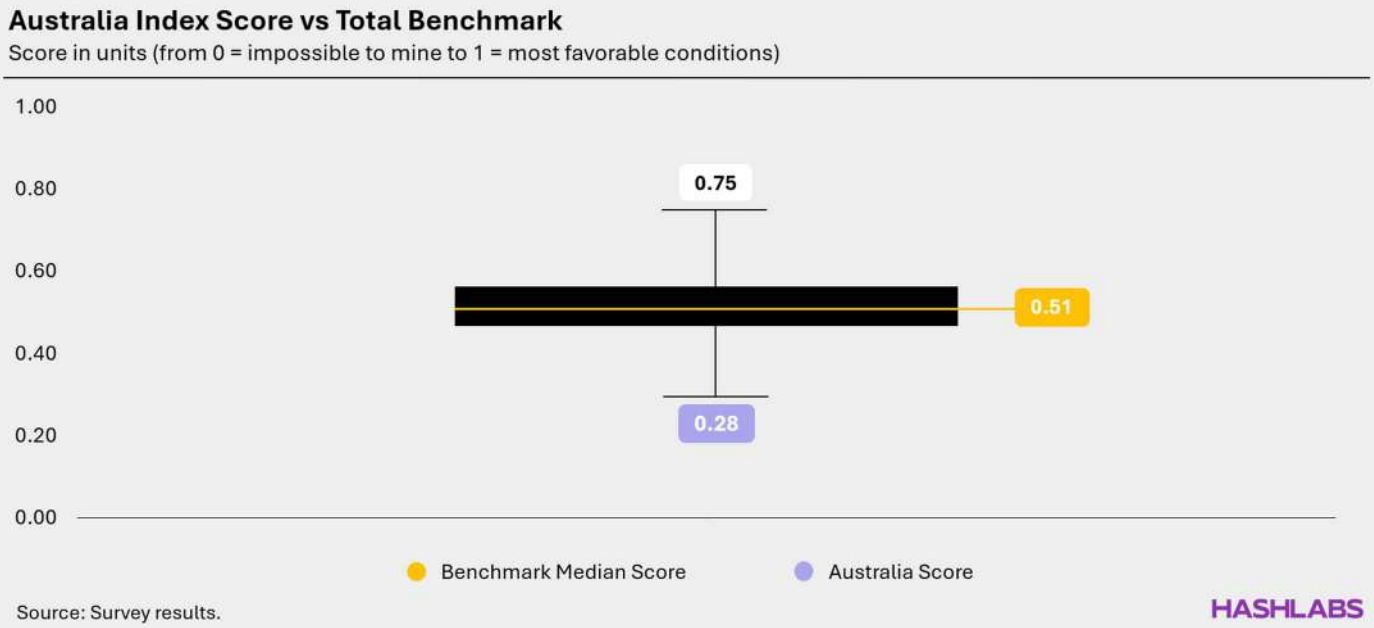
Argentina's climate operating conditions rank 9th out of 18 countries, with a score of 0.58 against the benchmark average of 0.57 and the median of 0.58.



Argentina operations primarily locate in Vaca Muerta to harness gas and oil fields wasted gas in central part of the country where neutral climate dominates with ideal temperatures in winter (-8°C to 15°C) but less favorable in summer with spikes above 30°C, favorable level of humidity (65.0%) and reasonable altitude at 850 meters.

In summer, significant diurnal spread (4°C to 33°C) might require careful monitoring and additional adjustment on containers (such as better insulation) and ASICs to alleviate this violent shift in daily temperatures.

Australia



Australia records the lowest score in the benchmark (0.28), reflecting a highly unfavorable legal, fiscal, and operational environment. While no mining-specific regulatory framework applies yet, stringent environmental policies applicable to data centers are likely to constrain industry development, particularly through restrictive zoning rules affecting land acquisition and new facility construction. The fiscal environment is also punitive, and conditions in the electricity market are challenging, characterized by extended grid interconnection lead times (12–18 months) and structurally high power prices ($55 - $65.0/MWh). Although import tariffs on mining equipment remain relatively low, persistent customs delays continue to disrupt deployment schedules and can materially impact project viability. Elevated temperatures in summer combined with dust exposure set an unfavorable climate for miners but can reasonably be mitigated without prohibitive investments.

TLDR Legal Framework

- Current legal environment is unfavorable for miners.
- Future regulatory framework is expected to worsen.
- Advancements on the overall cryptocurrency industry policy, but mining lacks a specific framework.
- Strict environmental policy on the data center industry that is highly restrictive on mining farms.

TLDR Fiscal Framework

- Unfavorable tax regime with inability to shift the profit center abroad.
- No subsidies or fiscal incentives available for miners or data centers.
- There is no electricity tax.
- High level of constraints to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- An operating license is required and can be delivered in less than 3 months.
- Construction permits are secured within 9 - 12 months.
- Environmental and water permitting requirements are moderately burdensome for data center construction.
- Emissions, heat and noise compliance level is extremely significant for mining operations.
- Zoning restrictions highly impact land availability for data center development.

TLDR Energy Regulation & Grid Access

- High barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times range from 12 - 18 months.
- Electricity costs exceed the median ($55.0 - $65.0/MWh).
- Miners' grid status is highly unfavorable compared to other participants.
- High curtailment exposure in any part of the Australian grids, no demand side participation (DSP).

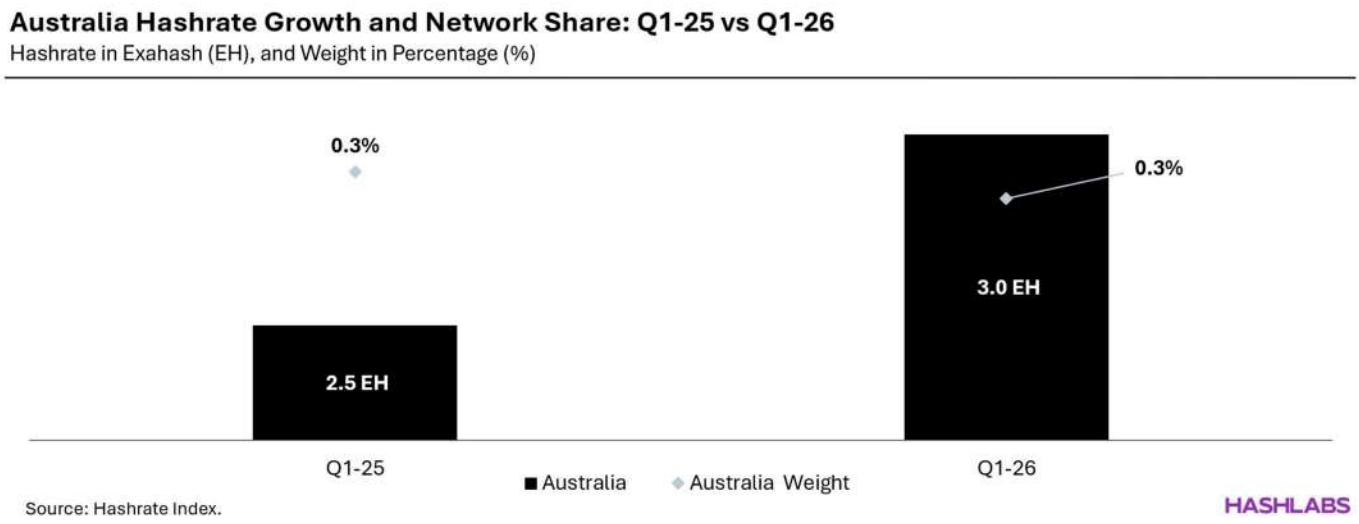
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 10.0% goods and services tax (GST).
- ASIC imports require a license and are not exposed to tariff (excluding GST).
- Import procedures are unfavorable for ASICs and highly unfavorable for electrical infrastructure.
- Electrical equipment lead times have slightly affected mining energization timelines (2 to 3 months).
- Administrative mitigation efforts are largely ineffective, as customs routinely delay shipments for inspection and information requests.

TLDR Climate Operating Conditions – South Australia

- Favorable temperatures level in winter but unfavorable in summer (>35°C).
- Significant diurnal temperatures spread in summer (11°C to 37°C).
- Favorable humidity level 59.0% but high dust exposure.

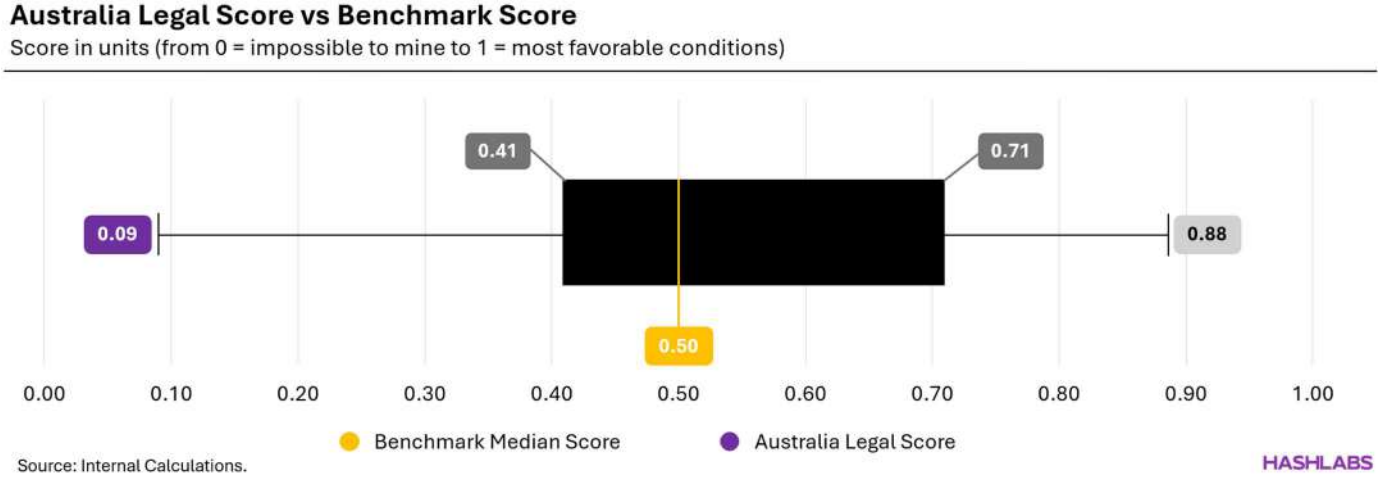
Australia Footprint



Australia hashrate jumped by +20% but only gained 0.5 EH from Q1-25 to Q1-26. A trend showing potential machines renewal rather than mining expansions at new sites and that is likely to continue due to a precarious environment in all domains (legal, fiscal, energy, permits and imports). However, the gigantic renewable pipeline (32.0 GW over the next decade) could drive an upsurge in the current mining footprint, as miners are well positioned to monetize stranded energy resulting from a potential oversupply.

Legal Framework

Australia's legal framework ranks 18th out of 18 countries, with a score of 0.09 against the benchmark average of 0.54 and the median of 0.50.



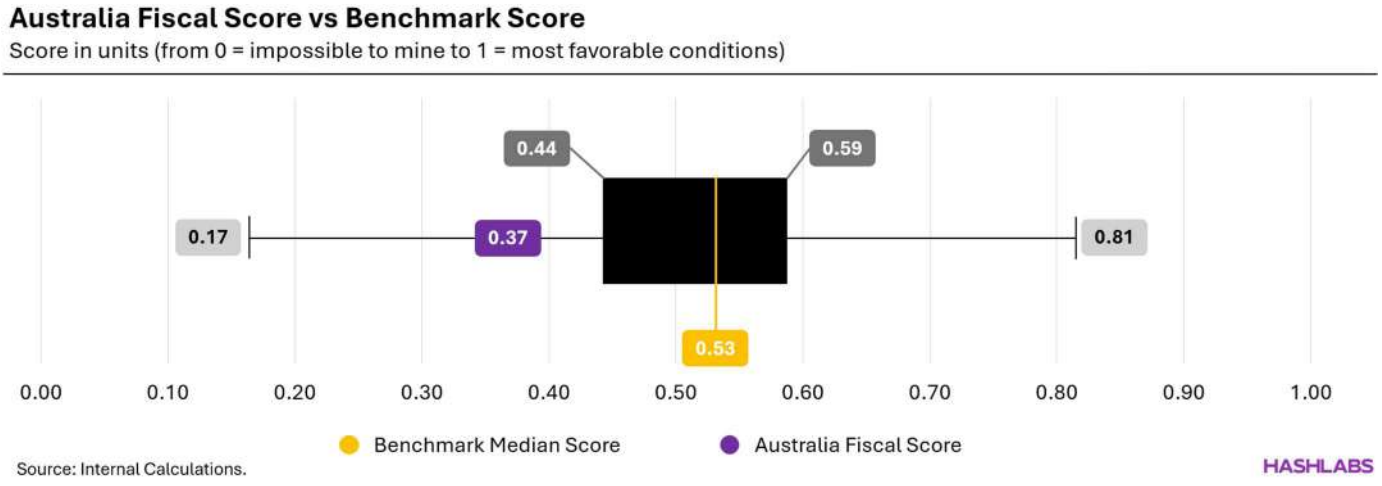
Although Australia has not enacted mining-specific legislation due to the industry's marginal size, several regulatory bodies established since 2022 have strengthened oversight of the broader cryptocurrency ecosystem. Collectively, these initiatives have provided a clearer guidance on AML, taxation and custody.

Industrial-scale miners (exceeding 0.2 MW) are subject[10] to heightened financial and environmental regulatory scrutiny. In parallel, the Digital Transformation Agency has elevated[11] environmental considerations within the data center sector through the New Data Centre Panel.

Bill	Description
New Data Centre panel - 2023	**The Digital Transformation Industry updated its guidance on Data Centers:** - Meet the requirements of the Government's ICT Sustainability Plan - Compliance with emission thresholds under the NGER Act - Use accredited Greenpower from renewable sources - Target a Power Use Efficiency (PUE) of less than 1.4 - Roadmap to meet net zero emissions through innovation, planning and investment.
AML/CTF Amendment Bill - 2024	**Expand AML/CTF regulation on** virtual asset service providers (VASPs). [12]
ASIC RG 133 - 2024	Australian Securities and Investments Commission (ASIC) issued CP 381 **guidance clarifying ASIC's expectations for crypto-related activities** setting minimum standards for custody and asset management involving crypto assets.
ATO - 2025	Government on tax treatment confirmed that existing tax laws are applicable to digital assets and the Australian Taxation Office (ATO) is responsible for issuing guidance.

Fiscal Framework

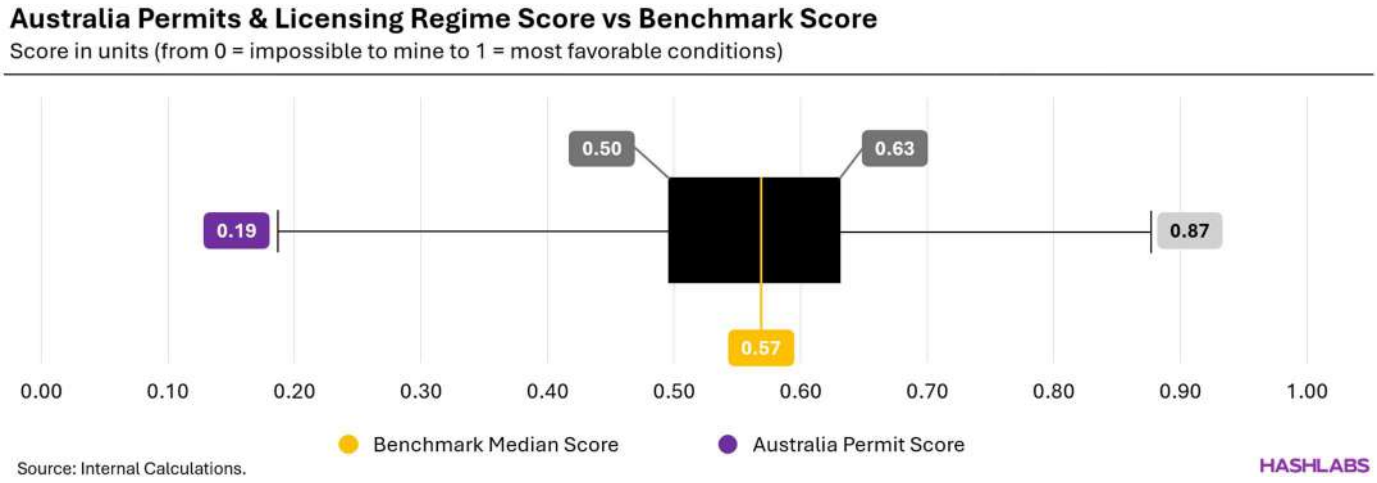
Australia's fiscal framework ranks 16th out of 18 countries, with a score of 0.37 against the benchmark average of 0.52 and the median of 0.53.



Australia's taxation environment is unfavorable to miners. Firms face a corporate income tax rate of 30.0%, and are not legally authorized to shift profit centers offshore. Industrial-scale miners generating more than AUD 75.0K in annual revenue (approximately $50.6k) are required to register[13] for goods and services tax.

Permits & Licensing Regime

Australia's permit & licensing framework ranks 18th out of 18 countries, with a score of 0.19 against the benchmark average of 0.55 and the median of 0.57.

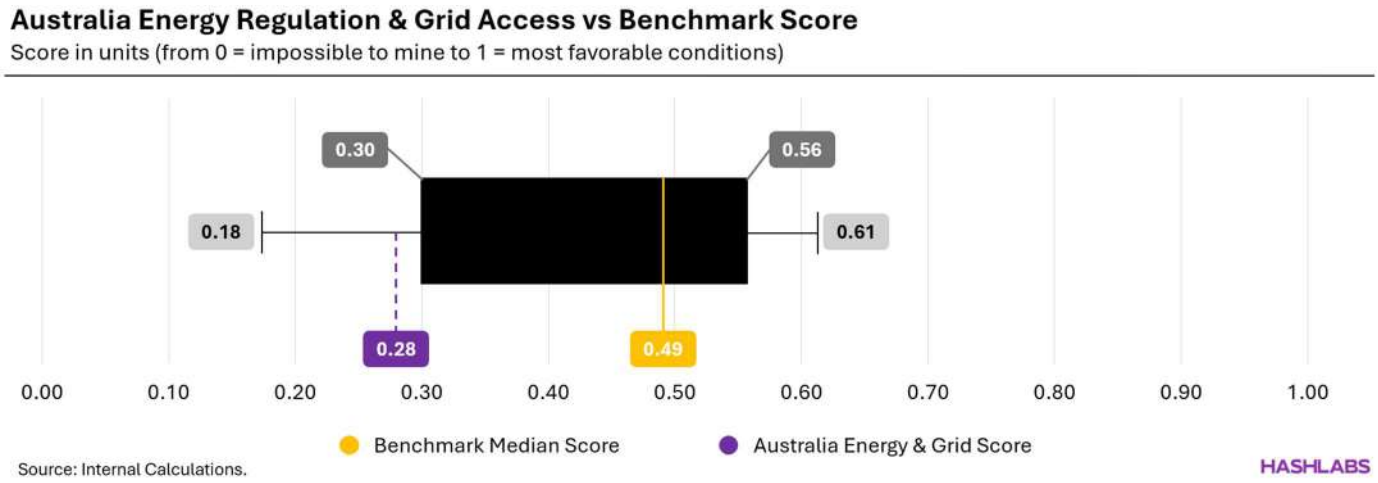


In line with Australia's ambitious energy transition targets and pathway toward net-zero emissions, permitting and operational compliance requirements are materially more stringent than in other jurisdictions.

In practice, construction permits can be delivered only after 9 months. Environmental constraints play a significant role in data center operations imposing strict heat, noise and emissions thresholds, meanwhile strict zoning compliance further limits overall land availability for large-scale facilities.

Energy Regulation and Grid Access

Australia energy regulation and grid access rank 15th out of 18 countries, with a score of 0.28 against the benchmark average of 0.44 and the median of 0.49.



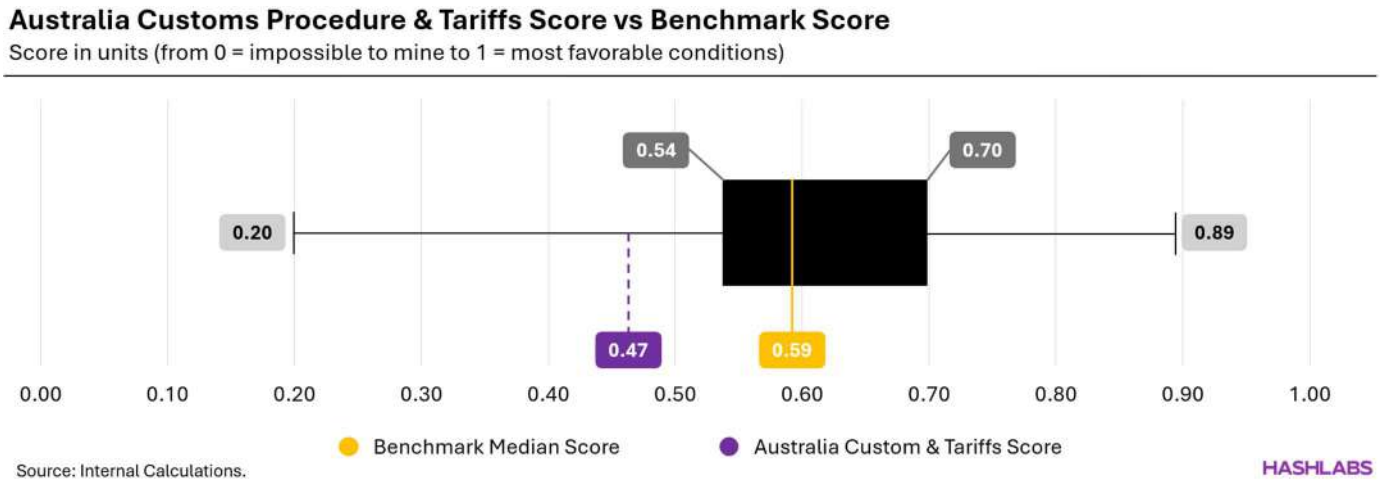
Australia's electricity system is composed of multiple regional transmission networks coordinated by the Australian Energy Market Operator (AEMO) within the National Electricity Market (NEM) - a wholesale marketplace through which generators and retailers trade electricity. Accessing the NEM presents serious barriers for large loads: interconnection approvals historically required between 12 to 18 months.

According to Morgan Stanley[14], data centers could account for up to 8.0% of total electricity demand by 2030 in Australia. At the same time, the grid is expected to integrate as much as 32.0 GW of additional renewable capacity by the end of the decade. While this expansion supports decarbonization goals in a country primarily relying on coal for power generation – representing 46.0% of the mix[15] - the increasing share of intermittent generation may exacerbate existing reliability challenges. As coal-fired generation is progressively retired[16], the system's stable baseload capacity will shrink, contributing to higher price volatility in the wholesale market.

Electricity prices faced by Bitcoin miners in Australia are generally above the median ranging from $55.0/MWh to $65.0/MWh. Pricing strongly varies by state, South Australia (SA) and Queensland (QLD) where miners are located (off-grid solar), have recorded[17] comparatively average wholesale prices over the past two years of $53.0/MWh and $61.1/MWh, but both markets experience sharp seasonal spikes, with summer peaks reaching $122.0/MWh in SA and $90.5/MWh in QLD.

Customs Procedure & Tariffs

Australia Argentina tariffs and customs framework rank 15th out of 18 countries, with a score of 0.47 against the benchmark average of 0.60 and the median of 0.59.

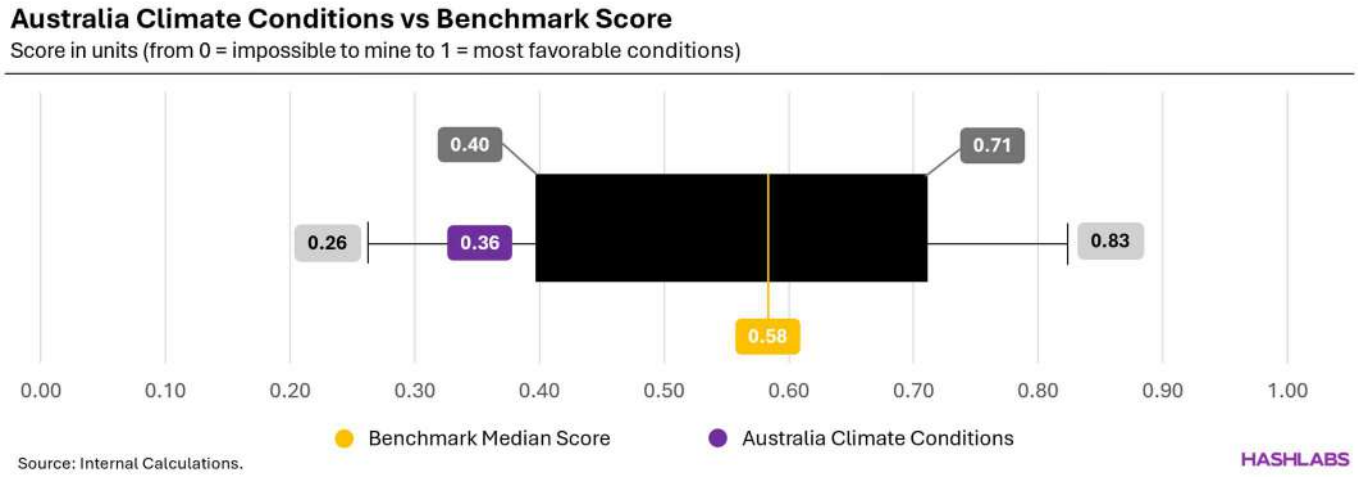


ASIC mining hardware imported into Australia must face 10.0% of goods and services tax (GST) without additional tariffs, with compliance and filing procedures generally considered straightforward.

However, customs oversight on imported equipment is particularly stringent. Mining and electrical machines must frequently cope with prolonged inspections, resulting in shipment delays that have materially affected energization timelines. In addition, an importer license is mandatory for purchasing ASICs from overseas, but usual mitigation mechanisms to reduce administrative or fiscal burdens are largely ineffective in Australia.

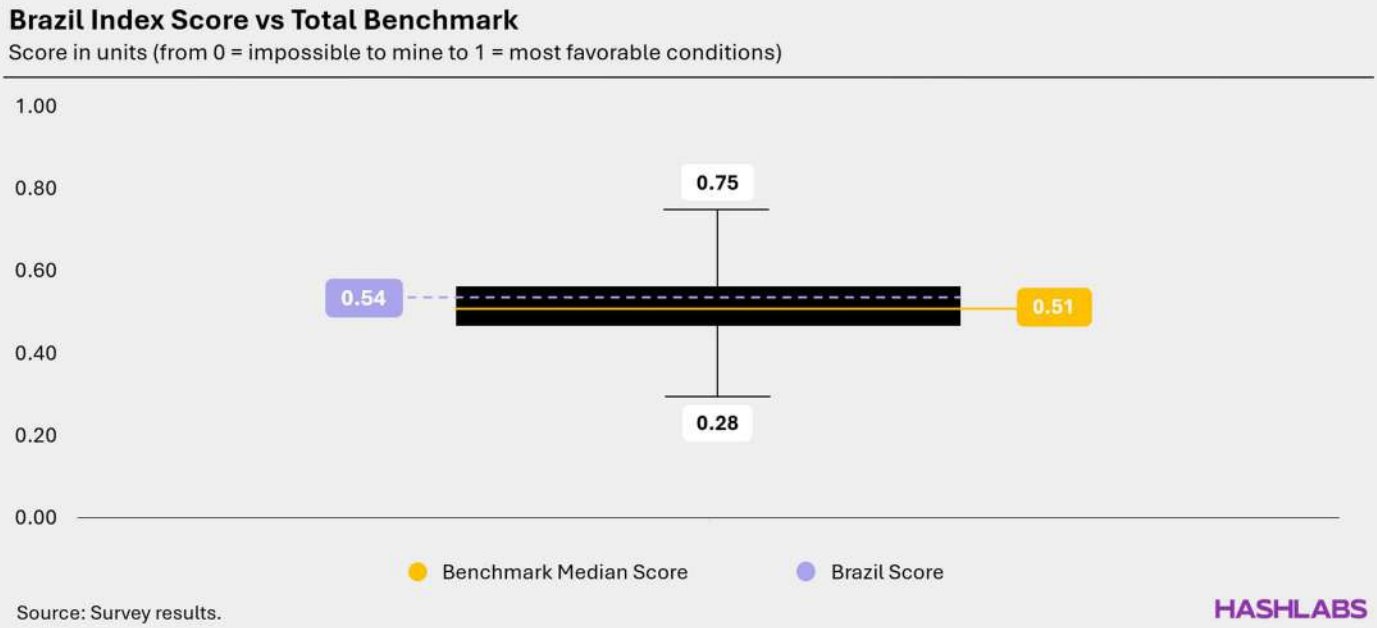
Climate Operating Conditions

Australia's climate operating conditions rank 17th out of 18 countries, with a score of 0.36 against the benchmark average of 0.57 and the median of 0.58.



Southern Australia where a prominent share of mining activity is located benefits from favorable temperatures in winter (2°C to 19°C) but can significantly ramp up in summer exceeding 35°C. Modest level of humidity is favorable, but dust can rapidly come into hashboards and fans requiring an appropriate insulation. In parallel, temperature spread in summer can be problematic (11°C to 37°C) and combined with dust exposure it can quickly rippled on machines lifespan if nothing is done.

Brazil



Brazil scores 0.54, reflecting a broadly neutral environment. While several factors position Brazil as a future mining hub in Latin America alongside Paraguay, uncertainty remains around taxation and power market reforms. Overall Brazil fiscal framework should evolve favorably as tax reform advances between 2026 and 2033, and current incentives remain temporary and the risk of future tax hikes remain key concerns. Permitting and environmental requirements are generally modest, but careful diligence on water use and environmental impact is required, particularly near population centers as zoning restrictions can become material. Energy is abundant, including meaningful off-grid potential, and future power-sector reforms could significantly affect the industry depending on its outcome. Import procedures and local taxation require close management, as they can quickly become punitive if misaligned, meanwhile being favorable with appropriate measures. Tropical climate can require additional adjustments to hedge miners from elevated temperatures and high humidity level.

TLDR Legal Framework

- Current legal environment is slightly favorable for miners.
- Future regulatory framework is expected to become neutral with mixed views.
- Ongoing government discussions on tax reform and energy regulation could reshape the operating environment for miners.

TLDR Fiscal Framework

- Unfavorable tax regime but ability to shift the profit center abroad.
- Access to subsidies or fiscal incentives available for miners or data centers.
- There is no specific electricity tax on miners.
- High level of constraints to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- An operating license is currently not required to operate but there is a mandatory registration.
- Construction permits are secured within 3 - 6 months.
- Environmental and water permitting requirements are burdensome for data center construction.
- Emissions, heat and noise compliance level is modest for mining operations.
- Zoning restrictions have low impact on land availability for data center development.

TLDR Energy Regulation & Grid Access

- Neutral barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times average 12 months.
- Electricity costs are slightly higher than the median ($47.5 – 55.0/MWh) but can be lower when off-grid.
- Miners grid status is neutral compared to other participants.
- Due to historical high level of curtailment, wind and solar farms can benefit from mining, ongoing development of behind-the-meter mining sites near renewables projects.
- On-grid miners are exposed to utility tariffs, but exposure is manageable if designed properly.

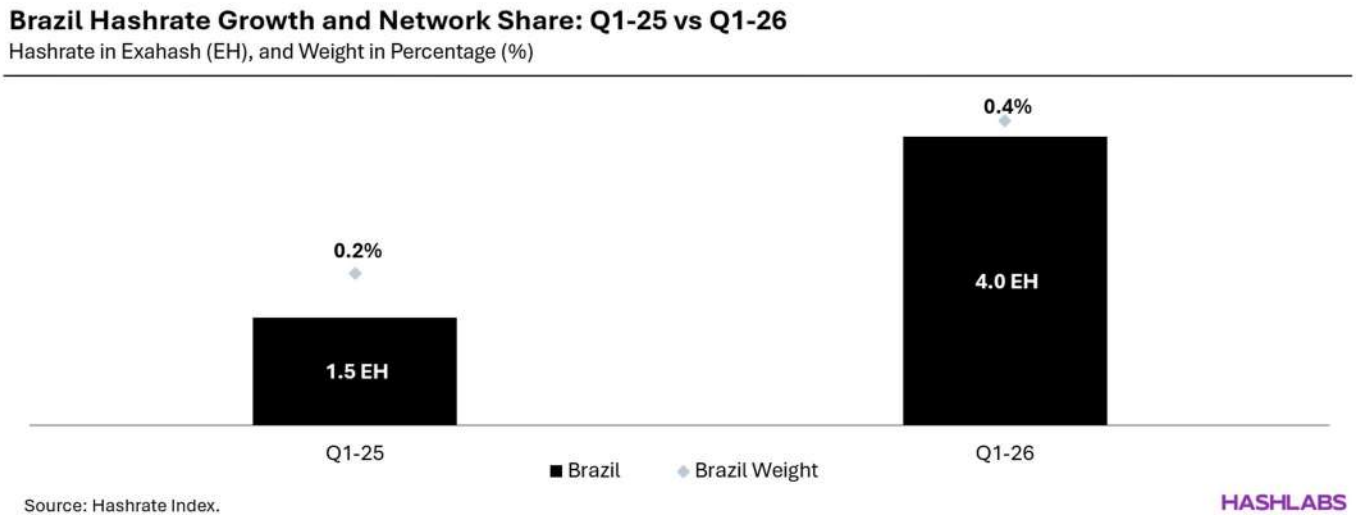
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to numerous VAT layers ranging from 30.0 - 35.0%, certain can be exempted.
- ASIC imports have no license requirement and tariff have been temporarily suspended (excluding VAT).
- Import procedures are neutral for ASICs and electrical infrastructure.
- Electrical equipment lead times have affected mining energization timelines (2 to 4 months).
- Administrative mitigation efforts are slightly effective to cut taxes and accelerate deliveries and they require great planning and a qualified local expert for compliance is strongly recommended. Custom brokers along with law firms with specific government access have proven effective mechanisms.

TLDR Climate Operating Conditions – Bahia

- Favorable temperatures level in winter but more less favorable in summer (>30°C).
- Low diurnal temperatures spread due to tropical climate (18°C to 31°C).
- Neutral humidity level 76.0% but more significant during the first months of the year (87.0%).

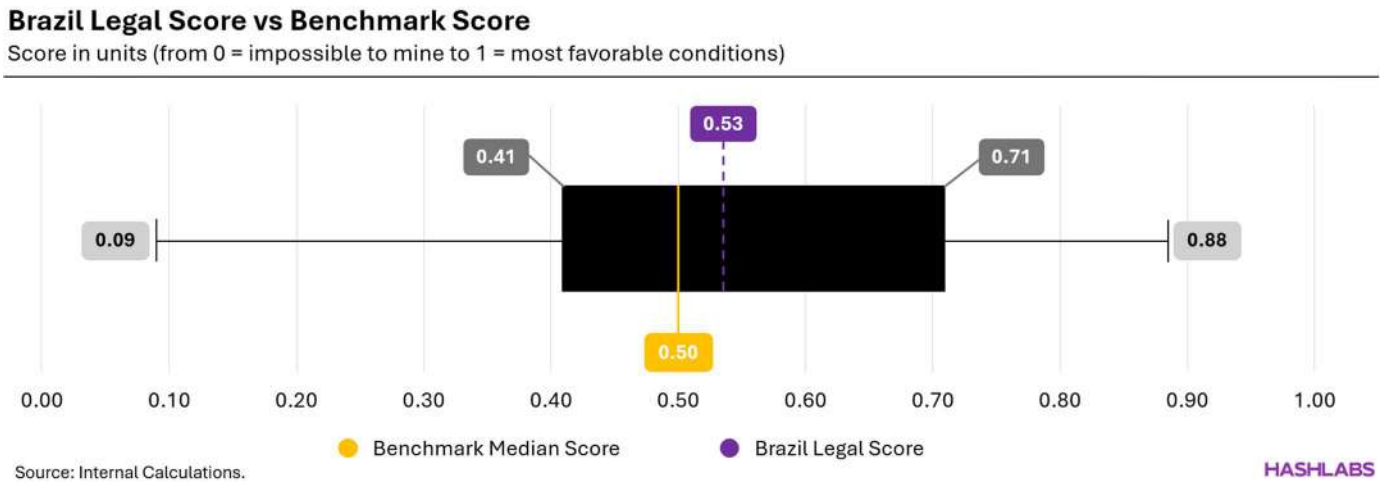
Brazil Footprint



Brazil's share of network hashrate more than doubled YoY, rising from 1.5 EH in Q1-2025 to 4.0 EH in Q1-2026, signaling a meaningful shift in market perception of the jurisdiction. Large-scale renewable build-outs - particularly low-cost wind generation - are creating increasingly favorable conditions for mining operations. While hashrate growth is expected to ramp up in the medium term, the trajectory of future expansion will ultimately be dictated by the outcome of forthcoming energy market reforms and fiscal developments.

Legal Framework

Brazil's legal framework ranks 9th out of 18 countries, with a score of 0.53 against the benchmark average of 0.54 and the median of 0.50.



In Brazil recent active legal advancements and proposals are shaping a less opaque framework for Bitcoin. First sign of adoption came in 2022 with the development of a legal framework[18] for regulating virtual asset providers (VASPs), ultimately enforced in 2023.

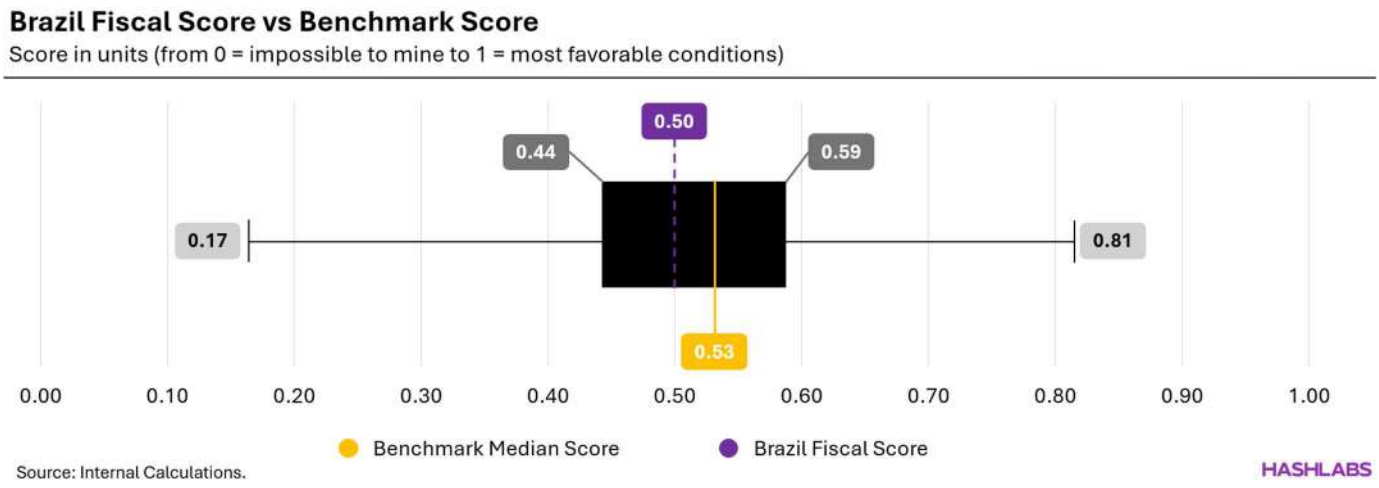
In 2024, this wave of adoption was followed by a draft bill[19] proposing establishment of a Strategic Bitcoin Reserve, subsequently reintroduced[20] in 2026 now targeting 1 million of BTC accumulation over a 5 year period.

From a mining perspective, expect a draft[21] proposing to impose mandatory licensing on mining activities and facilitating access to renewable and nuclear powers nothing has been proposed or voted yet. Future regulatory change could impact the energy and fiscal front, but respondents views are mixed on potential trajectory.

Bill	Description
BVAL - 2022	Enactment of the first or the Brazilian Virtual Assets Law (BVAL - No 14.478/2022) setting guidelines for the provision of virtual assets services and regulating VASPs.
Bitcoin Strategic Reserve - 2026	This bill reintroduced a former proposal made in 2024 (Bill 4501/2024) of a **Strategic Bitcoin reserve**. The new draft **proposes to accumulate up to 1 million of BTC unit.**
Miner License - 2025	**Draft bill to license bitcoin mining, impose stricter reporting tax rules and facilitate miners access to nuclear and renewables.**

Fiscal Framework

Brazil's fiscal framework ranks 10th out of 18 countries, with a score of 0.50 against the benchmark average of 0.52 and the median of 0.53.



In Brazil the tax system is undergoing profound changes. Current tax reform[22] is transitioning from a complex VAT system with numerous layers (Federal; IPI, COFINS & PIS, State: ICMS, Municipalities: ISS) to a dual VAT system (CBS/IBS) it will progressively be enforced in 2026 and should be fully implemented by 2033. In addition to substantial VAT exposure that could be marginally diminished, this reform will remove the bureaucracy burden and cut compliance costs for businesses.

Miners indicated that shifting the profit center to another country is legal but avoiding taxes or accessing benefits remains difficult. However, miners have access to subsidies, as demonstrated by recent regime for Data Centre Services in Brazil (REDATA)[23]. This tax incentive is designed to attract large loads on renewable sources, exempting numerous federal taxes (PIS, IPI, COFINS) and import duty on ICT equipment (such as ASICs, or electrical assets). Importantly, authorities impose strict eligibility criteria on water efficiency, getting prior approvals from the federal service and harnessing 100.0% low-emission energy sources.

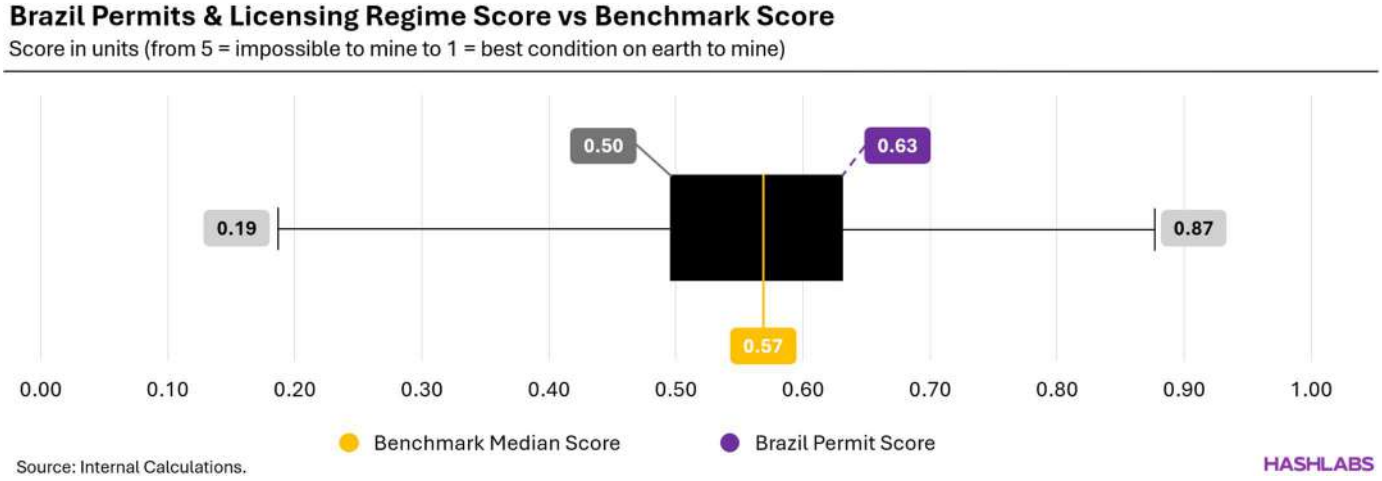
Miners are not exposed to a specific electricity tax but only VAT, and as mentionned incentives can mitigate the exposure such as getting an exemption from the ICMS on power purchases. Additionally, following a

resolution[24] from GECEX, tariffs on ASICs boasting an efficiency below 32.0 J/TH have been eliminated until November 2027. If positioned properly, mining can strongly benefit from tax incentives and avoid Brazil tax burden. Nonetheless, risks remains on future tax hikes stressing Brazil volatility on the fiscal window.

Program	Description
REDATA - 2025	The regime for Data Centre Services in Brazil (REDATA), is a **tax incentive designed to attract data center investments that operate exclusively on low-emission energy sources**, exempting federal taxes, including PIS/Pasep, Cofins, IPI, and Import Duty, on ICT equipment used as fixed assets.
ASICs Tariff Exemption - 2025	Since December 2025, **ASICs have been exempted from tariffs until November 2027**, but are still subject to a substantial cascade of taxes (Federal, state and municipal taxes).

Permits & Licensing Regime

Brazil's permit & licensing framework ranks 6th out of 18 countries, with a score of 0.63 against the benchmark average of 0.55 and the median of 0.57.

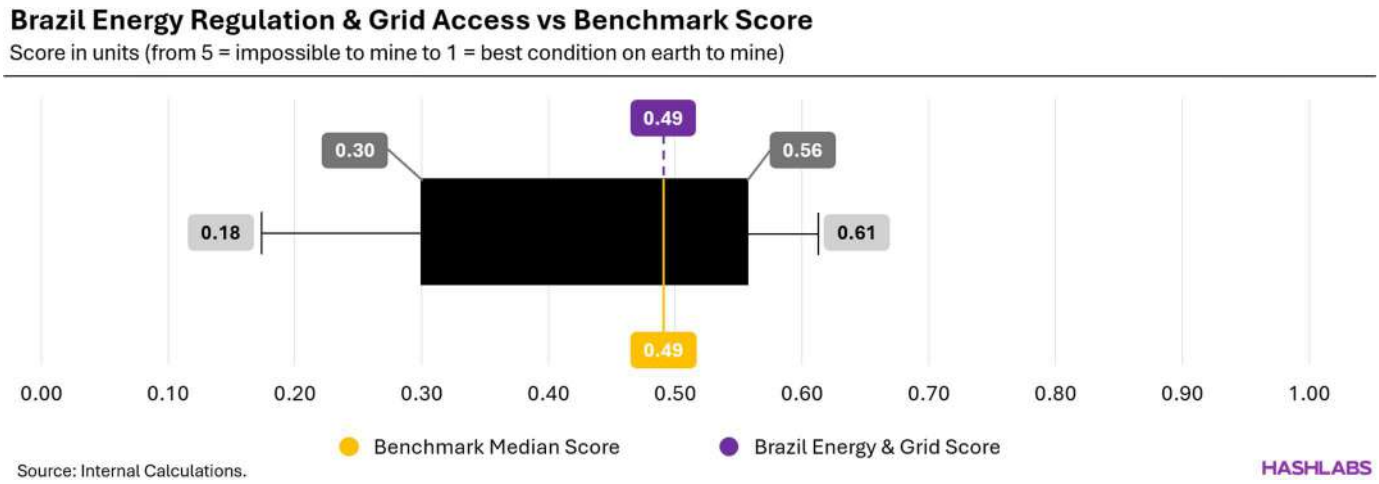


In Brazil, the permitting framework is favorable as demonstrated by the push for attracting data centers with REDATA regime (see fiscal section) and the modest time to secure construction permits (3 to 6 months).

In the same vein, land availability is generally not constrained by zoning rules on data center construction, and operational restrictions related to heat, noise, and emissions are minimal, except in proximity to populated or urban areas where such constraints can become material. By contrast, water-use permits and mandatory environmental impact assessments prior to construction are moderately burdensome.

Energy Regulation and Grid Access

Brazil energy regulation and grid access rank 9th out of 18 countries, with a score of 0.49 against the benchmark average of 0.44 and the median of 0.49.



Brazil's electricity generation mix is predominantly renewable[25], led by hydropower (56.1%), followed by wind (14.3%) and solar (9.4%). By 2025, total installed capacity exceeded 210 GW[26], with solar and wind accounting for approximately 43.0% of all new capacity additions since 2019. The rapid expansion of intermittent generation has structurally increased curtailment and surplus risks. Industry associations estimate that oversupply-related losses reached nearly $1 billion[27] over the past two years.

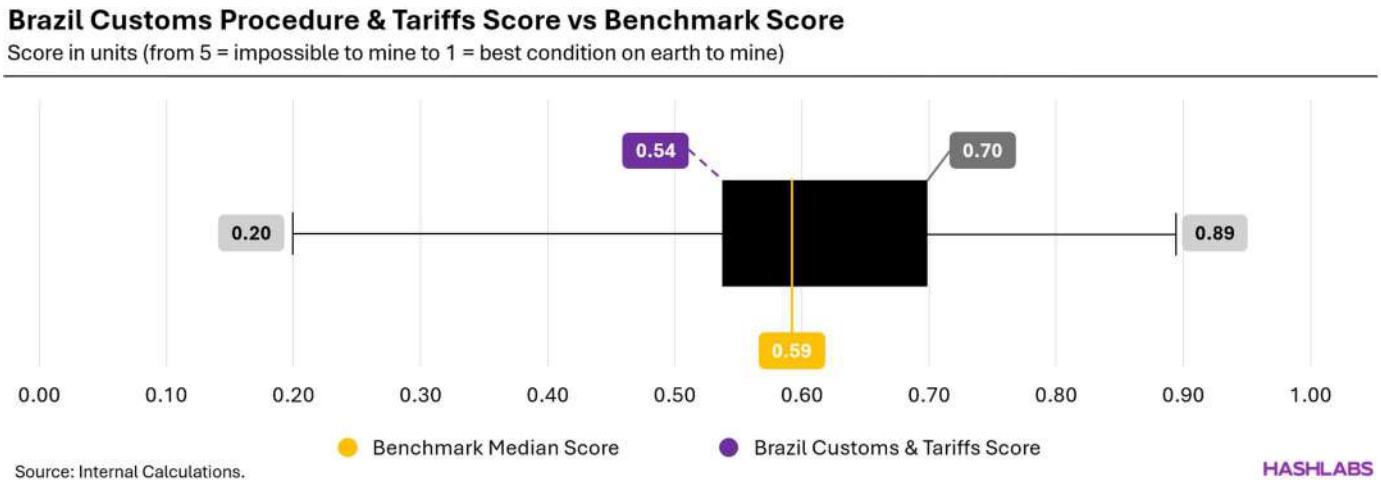
These impacts were partially addressed through Law No. 15,269/2025, which introduced retroactive compensation for wind and solar generators curtailed due to grid security constraints or transmission lines unavailability, though it excludes compensation for supply–demand imbalances.

Electricity operations are conducted within a liberalized market framework, monitored by Operador Nacional do Sistema Elétrico (ONS). To manage the surge in renewable projects, Brazil recently implemented the National Policy for Transmission System Access (PNAST) [28], replacing "the first-come first-served" approach with competitive "Access Seasons." This batch-based allocation mechanism, applied biannually, relies on technical and economic criteria and is expected to moderate the pace of new renewable capacity additions.

Overall, market access conditions remain broadly neutral, with opportunities available for miners able to conduct robust due diligence. Grid-connected projects can typically secure electricity at reasonable rates ($47.5 – 55.0/MWh), and standard interconnection timelines can be rapid (12 months on average). While utility tariffs apply to grid-connected operations, effective contract structuring and load management strategies can materially mitigate cost exposure. Importantly, behind-the-meter system can rapidly develop and have demonstrated robust mining economics in the country.

Customs Procedure & Tariffs

Brazil tariffs and customs framework rank 13th out of 18 countries, with a score of 0.54 against the benchmark average of 0.60 and the median of 0.59.



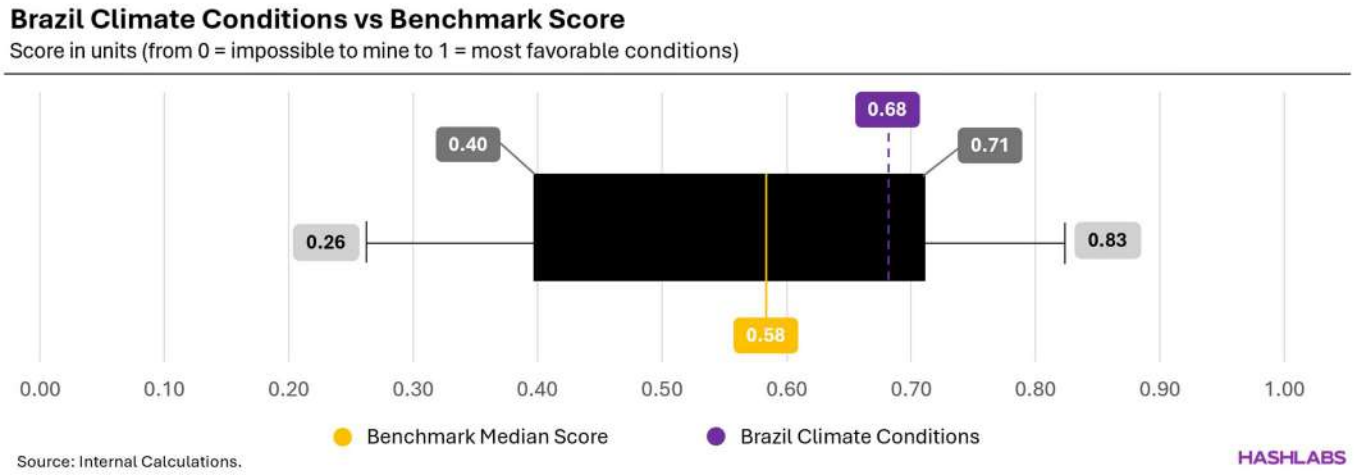
As outlined in the fiscal section, Brazil's import taxation framework for ASICs and electrical infrastructure is complex and can materially undermine project economics if not properly managed. Although ASIC miners benefit from a temporary customs duty exemption until November 2027, VAT and related levies remain substantial and weigh heavily on equipment costs and overall profitability. The cumulative tax burden—arising from federal, state, and municipal layers—can push effective VAT exposure toward 30.0% to 35.0% (the amount varies by state).

Targeted exemptions are available for miners sourcing renewable energy under the REDATA regime, and while recovery of federal VAT-type credits is possible, they are generally not recovered as the process is administratively complex and uncertain. Import procedures for both ASICs and electrical equipment are broadly neutral, however, delays—particularly for electrical infrastructure— have affected energization timelines. Existing mitigation mechanisms for bureaucratic friction or tax relief are slightly effective.

In Brazil, import-related frictions can rapidly strain liquidity and penalize inadequate planning, underscoring the importance of partnering with experienced local advisors to optimize import strategies. Warranty replacement logistics, often overlooked, represent an additional operational risk or opportunity for miners. Lastly, specific law firms with great government access and custom brokers have proven essential in mitigating those risks as custom delays is common in Brazil.

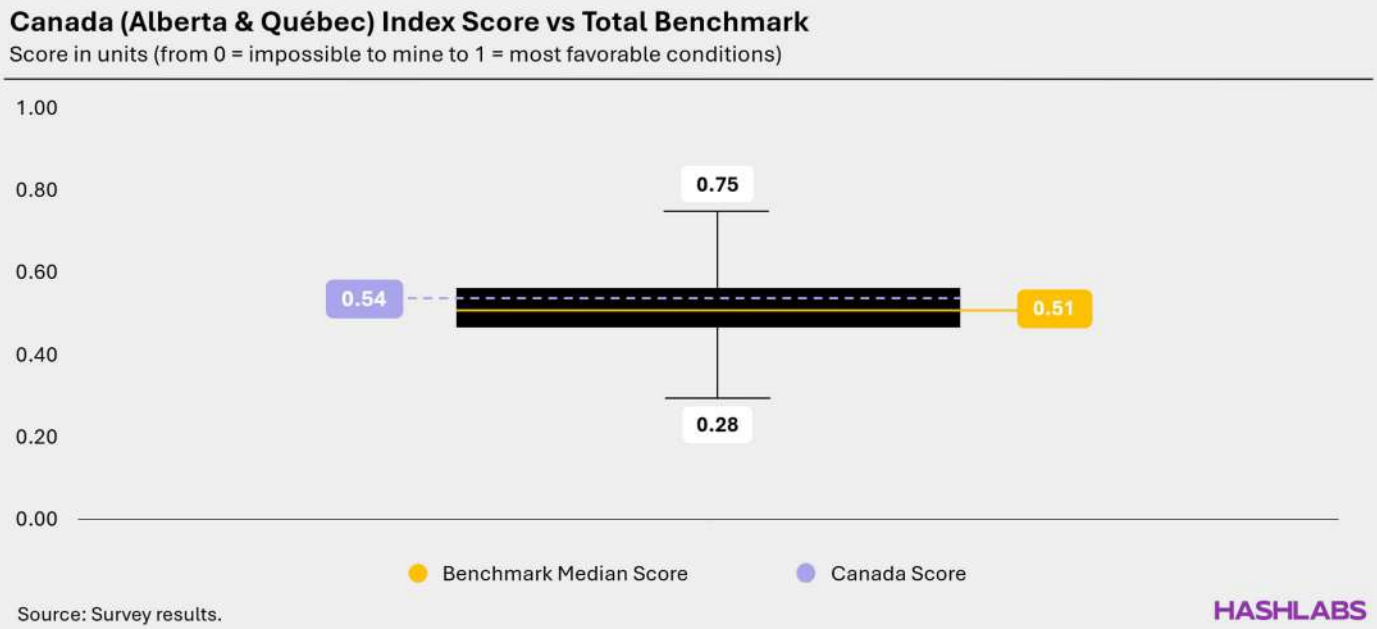
Climate Operating Conditions

Brazil's climate operating conditions rank 7th out of 18 countries, with a score of 0.68 against the benchmark average of 0.57 and the median of 0.58.



In Bahia, northeastern Brazil, where mining operations harness wind power, climatic conditions present both challenges and opportunities. Peak temperatures remain relatively stable around 33 °C throughout the year due to the tropical climate, while humidity levels are elevated - reaching up to 87.0% during February and March - posing risks to mining performance if facilities are not appropriately engineered. Conversely, the limited diurnal temperature range (~13.8 °C) provides thermal stability over the day, partially offsetting cooling and operational variability risks.

Canada – Alberta & Québec



Expect in Alberta, mining provinces such as British Columbia (B.C.), Québec and Manitoba imposed temporary or permanent ban to alleviate the spectacular growth in their respective grids setting distinct operating environment for miners. For Canada we narrow our scope to Alberta and Québec respectively scoring 0.53 and 0.55, and giving an average score of 0.54 for Canada.

Alberta's fiscal environment is slightly more favorable than Québec's, although both provinces allow miners to shift profit centers offshore. Québec applies an electricity-related tax through the 14.95% GST, which is refundable. From a legal standpoint, Québec has imposed a moratorium on new mining projects (only on territories covered by Hydro-Québec province-owned supplier), whereas recent policy developments in Alberta - particularly around data centers and oil & gas industry - could support mining expansion, despite stringent rules governing off-grid gas usage. Permitting frameworks are broadly comparable across both provinces, especially regarding zoning on land availability and data center operations. Energy markets are saturated in both jurisdictions, resulting in similar but neutral power pricing dynamics. Import tariffs remain low in both cases, with favorable and predictable import procedures in both provinces. Climate conditions are favorable despite humidity and an important diurnal temperature spread.

TLDR Legal Framework

- Current legal environment is favorable in Alberta and neutral in Québec.
- Future regulatory framework is expected to be more favorable in Alberta and remain neutral in Québec.
- Recent policy efforts in Alberta aim to ease regulatory burdens on data centers to unlock energy capacity, support AI-driven growth, and revive economic activity.
- Other provinces including Québec have adopted an unfavorable stance toward mining enforcing multiple bans over the past years.

TLDR Fiscal Framework

- Neutral tax regime in Alberta, but unfavorable in Québec, both allow to shift the profit center abroad.
- There is an electricity tax imposed on miners in Québec but not in Alberta (only a carbon tax).
- No subsidies or fiscal incentives available for miners or data centers.
- Moderate level of constraint to avoid or mitigate taxes in Alberta, neutral in Québec.
- Miners can claim back goods services tax (GST) on electricity purchases in Québec.

TLDR Permits & Licensing Regime

- In Québec there is no licensing requirement but only a mandatory reporting to authorities, an operating license is required in Alberta and can be delivered in 3 to 6 months.
- Construction permits are secured within 3 - 6 months in Alberta, and 8 months in Québec.
- Environmental impact assessments are moderately burdensome for new data center construction in Alberta and Québec, but water-permitting requirements are softer in Québec.
- Emissions, heat and noise compliance level is significant for mining operations in both provinces.
- Zoning restrictions highly impact land availability in both provinces.

TLDR Energy Regulation & Grid Access

- High barriers to entry for energy market participation or grid interconnection
- Grid connection lead times ranged from 9 - 15 months in Québec, and exceed 24 months in Alberta.
- Electricity costs mean ranges are $42.5/MWh - 47.5/MWh in Alberta, and Québec.
- Miners status is neutral compared to other participants and can access to demand response.
- Only deregulated market with large private utilities are Alberta and Ontario other provinces are dominated by provinces-owned utilities.

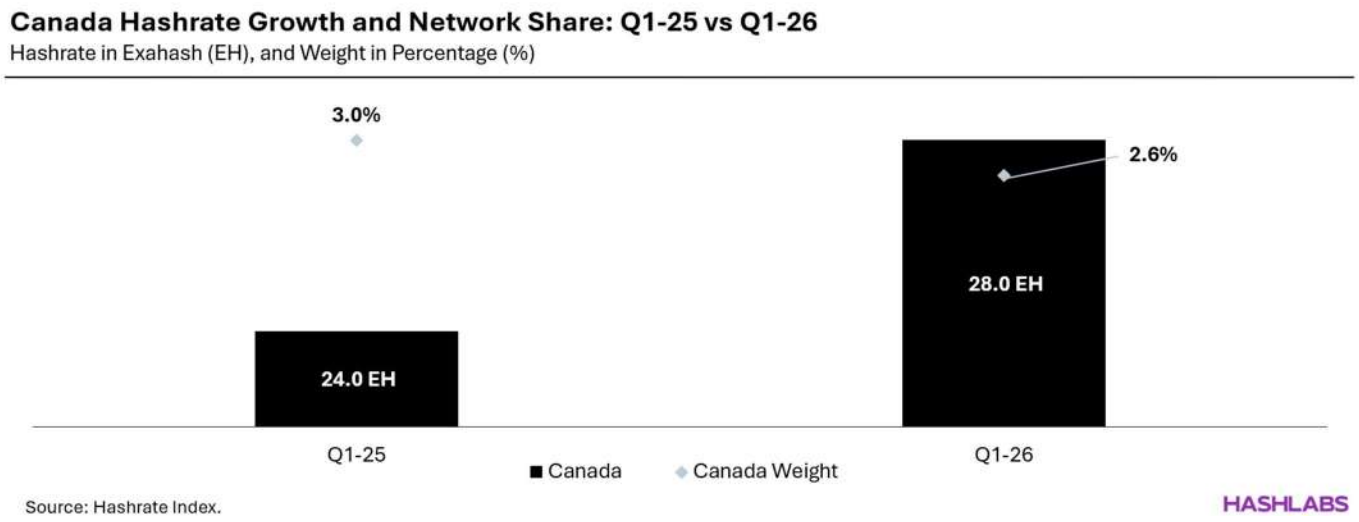
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 5.0% goods and services tax (GST) but can be refunded.
- An import license is not required for ASICs.
- Tariffs on mining rigs imports are at 0.0% in Québec and 2.0% in Alberta (excluding GST).
- ASIC and electrical import process are neutral in Alberta and slightly favorable in Québec.
- Electrical equipment lead times have affected mining energization timelines (2 – 5 months).
- Mitigation mechanisms on import constraints are effective to accelerate deliveries or cut tariffs.

TLDR Climate Operating Conditions – Alberta & Québec

- Favorable temperatures during the year despite important negative spikes in winter.
- Highly significant diurnal spread in both seasons and provinces (roughly 28°C).
- Important humidity level but still manageable (83.5%).

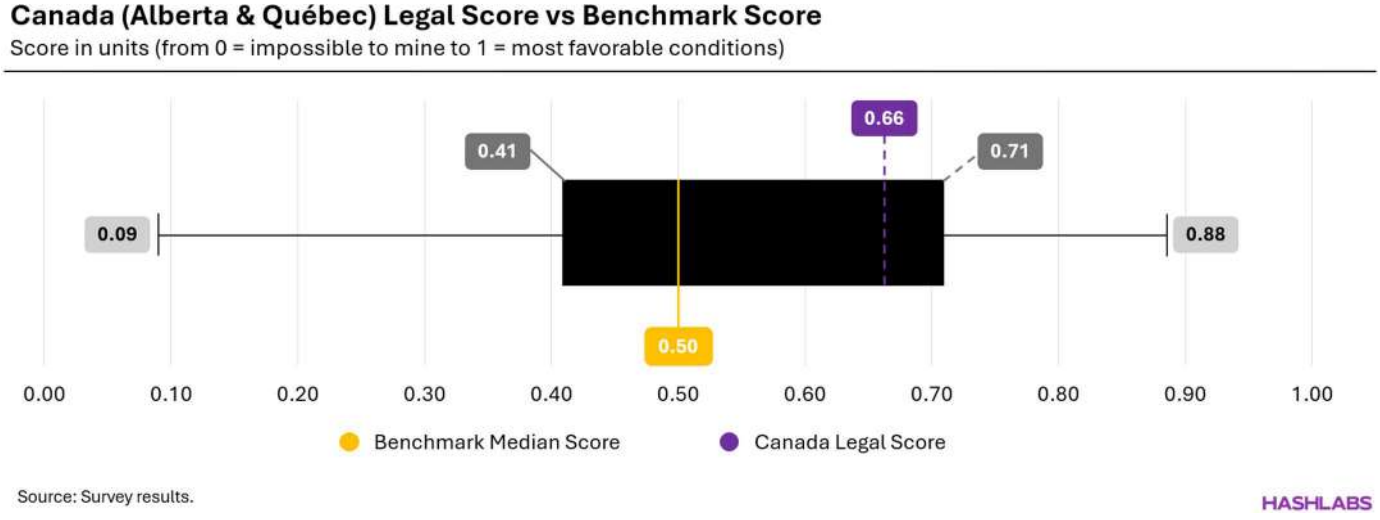
Canada Footprint



Although Canada seems to have brought additional compute power online (+4.0 EH YoY), their network share diminished in Q1-2026 hovering at 2.6%, compared to Q1-25 level at 3.0%. After years of hostile push against bitcoin mining in most Canadian provinces, only Alberta remains an attractive hub for miners. Although the recent push to expand oil pipelines and promote AI developments could benefit to miners as well, it might also rise competition for swallowing up the megawatts.

Legal Framework

Canada's legal framework ranks 6th out of 18 countries, with a score of 0.66 against the benchmark average of 0.54 and the median of 0.50.



In Canada abundant cheap hydropower, with political stability and a modern grid have long attracted miners, creating a gold rush in the early years of mining. The first suspension[29] on new grid connection occurred in 2018 in Québec, with the target of 500.0 MW cap dedicated to mining operation in the province, a new rate[30] is applicable for new miners at $130.0/MWh by state power provider Hydro-Québec – note that some territories were not affected by those measures as they were not covered by the state supplier. This was later followed by the proposal to stop selling energy to miners. Manitoba faced[31] a similar rise in power demand and temporarily (18 months) halted new grid connections for mining operations, while leaving

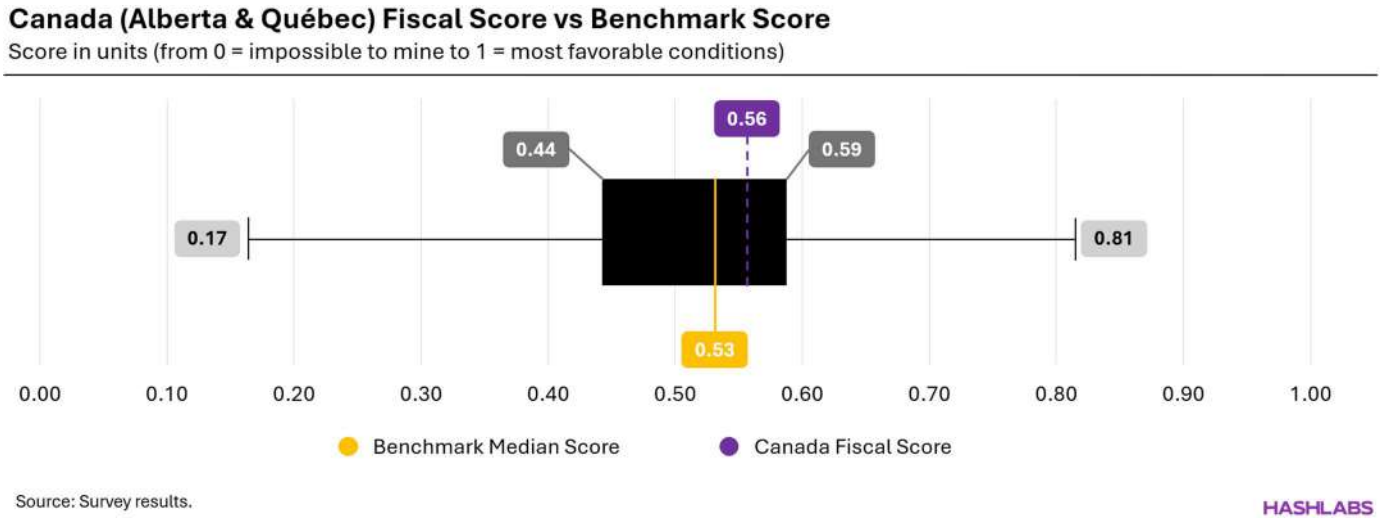
existing facilities unaffected. Again in 2022, British Columbia set a 18-month moratorium[32] to suspend new mining activities. Two years later, an amendment[33] gave power to the LGIC to regulate mining on public utility electricity services and include provisions regarding their consumption before enforcing a permanent ban in 2025 for new connections.

At the other end of the spectrum, Alberta recently adopted[34] a memorandum of understanding to expand oil pipelines and remove environmental laws. This shift comes with a surging urgency to develop AI data center and unlock economic opportunities amid a slowing economy.

Bill	Description
Quebec Moratorium - 2018	Moratorium **banning new operations** to cap overall industry at 500MW in Québec.
Quebec to ban miners - 2022	Proposal[35] to stop selling cheap power to miners, finally not applied.
Manitoba Grid Restrictions - 2022	The province announced **temporary halt (18 months) to new grid connections** for mining operations. Existing operations are unaffected.
B.C. Grid Restrictions - 2022	British Columbia set a **18-month moratorium to suspend new mining** activities.
B.C. Bill 24 – 2024	Amendment on Utilities Commission Act to enable the B.C. to enact regulations regarding public utilities provision of electricity service to miners
B.C. Ban - 2025	**Permanent ban[36] on new grid connections** for cryptocurrency mining.
MOU Alberta - 2025	**Memorandum to expand oil pipelines**, removing environmental laws.

Fiscal Framework

Canada's fiscal framework ranks 6th out of 18 countries, with a score of 0.56 against the benchmark average of 0.52 and the median of 0.53.



In Canada, the overall taxation environment for bitcoin mining is slightly unfavorable. Operators generally retain the ability to structure operations with profit centers located abroad, resulting in a moderate level of flexibility to manage tax exposure (easier in Québec than Alberta). No direct subsidies are available for

miners but eligibility to demand-response program or provincial energy credits are relevant incentives for miners.

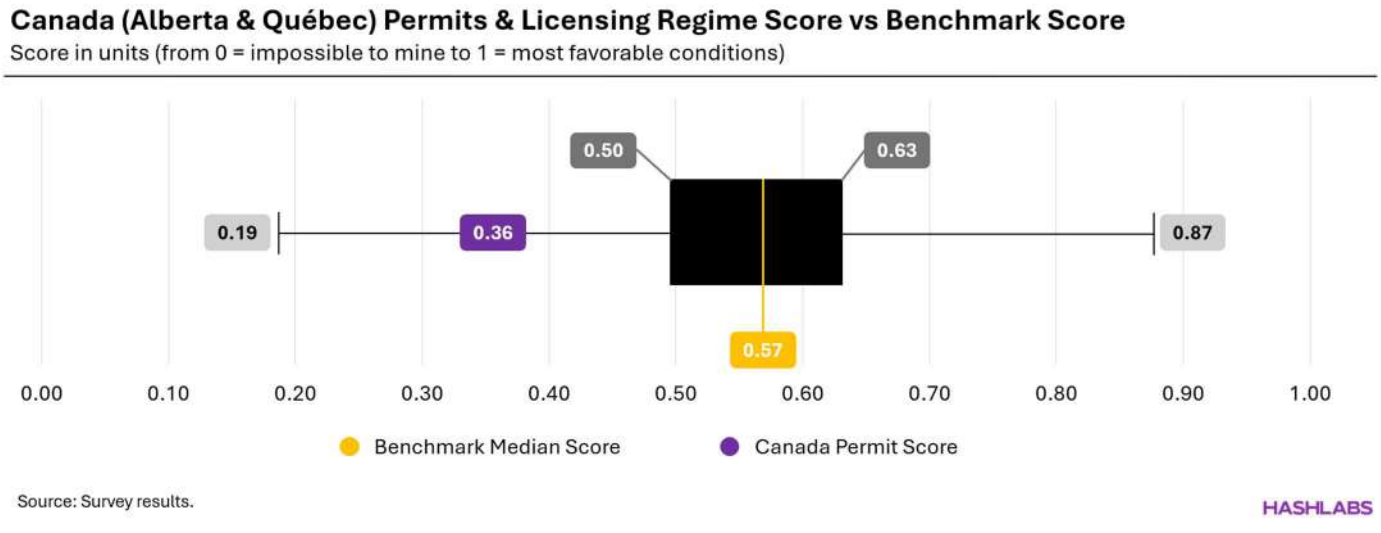
In Québec there is a specific fixed electricity rate of approximately $130.0/MWh (CAD 180.8/MWh) applied to each new mining operations since 2023 (on territories only covered by energy state provider Hydro-Québec). Other territories concentrating most of Québec mining activities – Sherbrooke, Baie-Comeau, Joliette among other – are not exposed to the tax regime. There is also a GST of 14.95% on power but miners can get it back. In Alberta, miners are only paying the federal tax at 5.0% and are exposed to a residual carbon tax. For off-grid miners a royalty on oil and gas extraction can be required by the extracting party.

In 2022, amendments[37] to the Excise Tax Act clarified the fiscal treatment of mining activities: while bitcoin mining is not considered a taxable supply and therefore does not require the collection of GST on revenues, miners are ineligible to claim input tax credits on equipment, hardware and power purchases. As a result, the effective tax burden - when accounting for harmonized federal and provincial sales taxes - can reach up to 15.0%. However, in Alberta and Québec miners have found effective ways to mitigate GST on power purchases.

Program Name	Description
Revised Power rate - 2023	HydroQuébec main electricity supplier in Québec established a **fixed rate for new miners** connecting to the grid exceeding 0.05 MW at CAD180.8/MWh (~ **$130.0/MWh).**
Excise Tax Act. Change - 2022	- Mining is not considered a taxable "supply" and therefore is **not required to collect and remit GST/HST** (5.0% - 15.0%). - **Input tax credits would therefore not be available** on electricity, hardware, electrical equipment purchases.

Permits & Licensing Regime

Canada's permit & licensing framework ranks 17th out of 18 countries, with a score of 0.36 against the benchmark average of 0.55 and the median of 0.57.



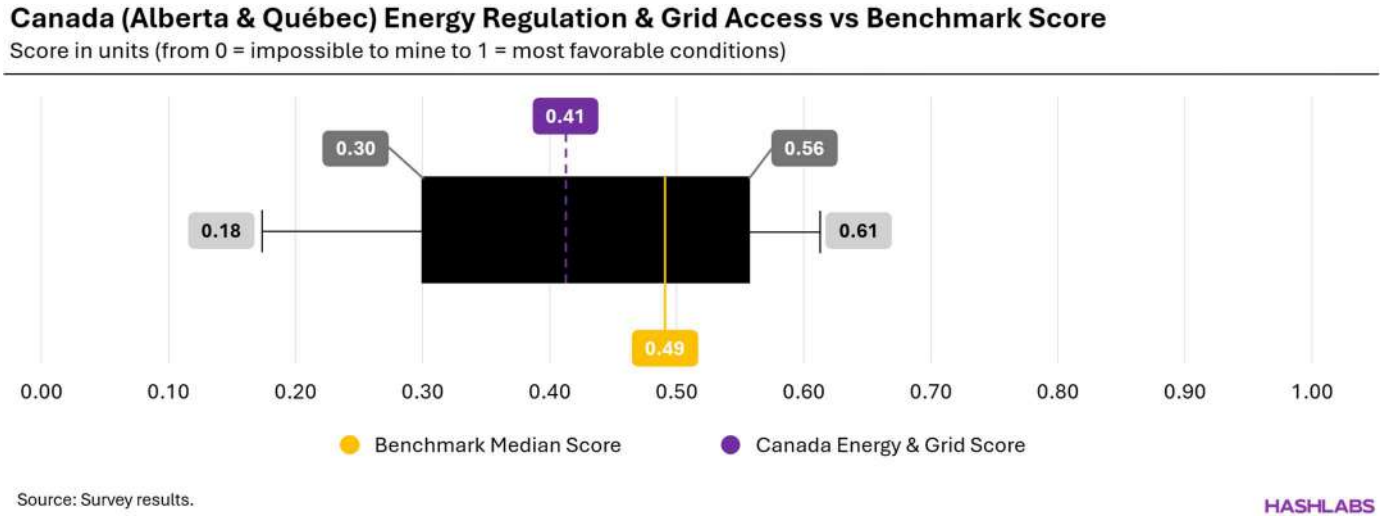
Canada is among the most advanced jurisdictions globally in terms[38] of environmental regulation as underpinned by a structured carbon pricing framework. The country has committed to reducing greenhouse gas emissions by 40.0 – 45.0% from 2005 levels by 2030 and achieving net-zero by 2050. In this

context, authorities apply heightened environmental scrutiny to new mining data center. EIA impose a moderate level of constraints, water permitting requirements are moderate in Alberta but more neutral in Québec. In both provinces, data centers cope with significant emissions, heat and noise restrictions on operations. Zoning regulation also materially affect land availability in Alberta and Québec.

From an operational standpoint, an operating license is required to run a mining facility in Alberta[39] typically issued within 3 to 6 months, but not in Québec (only a mandatory reporting is in place). On average, construction permits are secured in 8 months in Québec and 3 to 6 months in Alberta.

Energy Regulation and Grid Access

Canada energy regulation and grid access rank 13th out of 18 countries, with a score of 0.41 against the benchmark average of 0.44 and the median of 0.49.



Canada benefits from a large renewable and stable power system, with hydro and nuclear accounting for 55.4% and 13.9% of electricity generation respectively, and limited reliance on natural gas (16.4%). Power market structures[40] vary significantly by province: Alberta and Ontario operate fully deregulated markets, while provinces such as Québec rely on state-owned utilities acting as the supplier and grid operator.

Against a backdrop of elevated gas prices, intensifying competition from AI data centers, and recurring provincial moratoriums on mining, barriers to entry have become particularly high in Alberta and Québec. Grid interconnection approval timelines now commonly exceed 24 months in Alberta but can be avoided through off-grid settlement, while remaining low in Québec – between 9 to 15 months on territories uncovered by Hydro-Québec. Power prices remain broadly in line with global medians in Alberta and Québec, ranging from $42.5/MWh to $47.5/MWh.

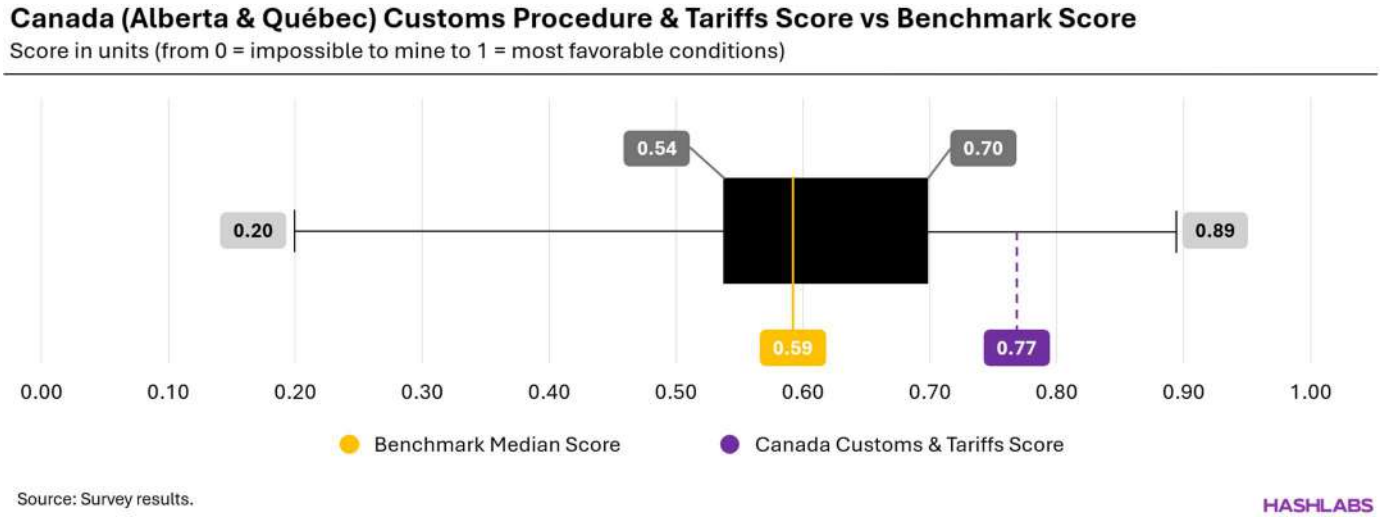
Policy divergence at the provincial level is pronounced. British Columbia recently launched a competitive procurement process allocating 400.0 MW to data centers while simultaneously reiterating a permanent ban on new Bitcoin mining connections. In Alberta growth is increasingly concentrated in off-grid stranded-gas solutions to circumvent grid access hurdles.

However, rrespondents also indicated that despite significant flaring potential in some provinces substantial environmental restrictions are blocking off-grid gas powered projects. Furthermore, on-grid mining installations may face material curtailment risks, constraining scalable deployment in Alberta.

Québec miners can participate in demand-response program earning some revenues from curtailment while maintaining a competitive uptime.

Customs Procedure & Tariffs

Canada tariffs and customs framework rank 4th out of 18 countries, with a score of 0.77 against the benchmark average of 0.60 and the median of 0.59.

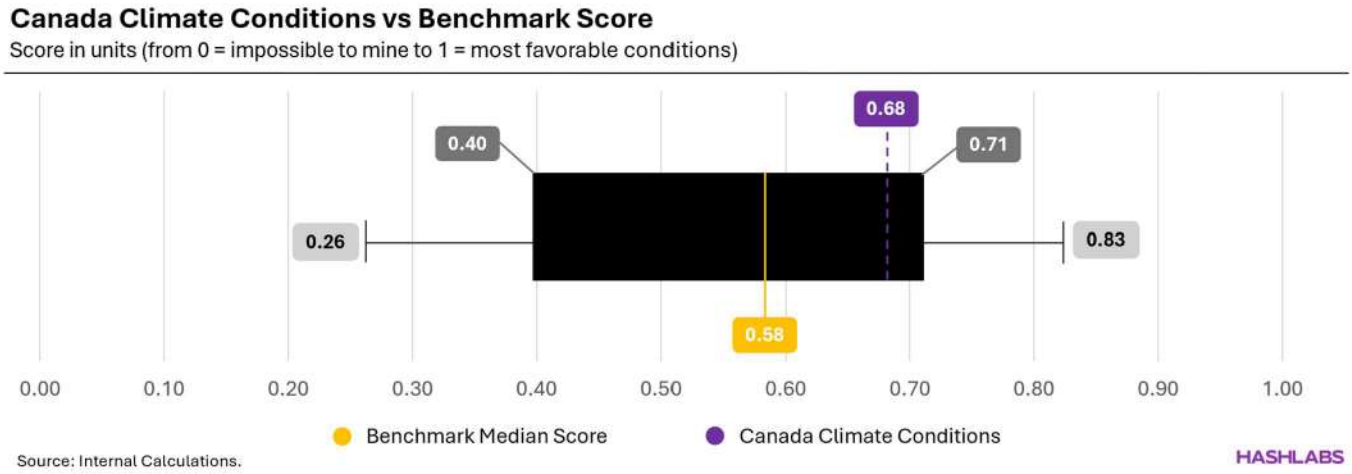


As outlined earlier, miners are subject to GST on all purchases, set at 5.0% in Alberta and Québec, but mitigation mechanisms have proven effective to get it back despite potential delays due to audits or missing documentation. Ignoring VAT, import tariffs on ASICs are at 0.0% in Québec and Alberta 2.0% reflecting the computer tax (but miners are generally exempted from it). A license is not necessary for importing ASICs.

Existing mitigation mechanisms have proven effective in reducing tariff exposure and managing administrative delays. Most hurdles can come from misclassification or documentation gaps. However, extended lead times for certain electrical equipment have, in some cases, modestly delayed project energization timelines.

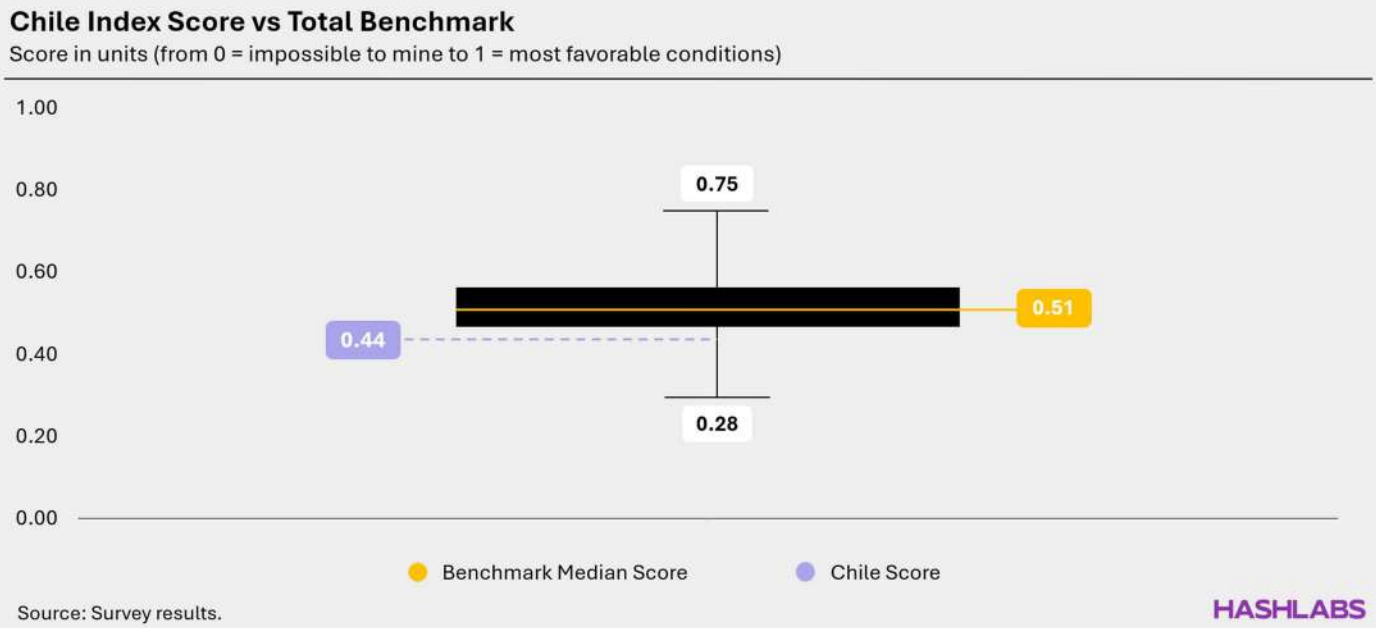
Climate Operating Conditions

Canada's climate operating conditions rank 8th out of 18 countries, with a score of 0.68 - Québec at 0.68 and Alberta at 0.67 - against the benchmark average of 0.57 and the median of 0.58.



Both provinces experience harsh winter conditions with significant diurnal temperature variation, requiring container enhancements to protect mining equipment (Alberta: -30°C to 7°C, Québec: -25°C to 6°C). Summers temperatures stay below 30°C, providing a favorable environment for mining operations. Humidity is notable, averaging 83.5%, which deserves a careful monitoring to ensure equipment reliability.

Chile



Chile scores 0.44, suggesting a slightly unfavorable operating environment. However, this masks critical barriers: grid access is highly constrained, connection lead times are exceeding 24 months and electricity costs range from $55.0/MWh - $65.0/MWh. Legally, there is no mining-specific regulation due to the sector's limited footprint, though data center–friendly frameworks may indirectly support mining infrastructure. Permitting bureaucracy remains a key bottleneck, with construction permits averaging 6 - 9 months while environmental and zoning requirements impose moderate constraints. Tariffs are modest at 10.0% ignoring VAT (19.0%). Mitigation mechanisms for tariff have no impact. The Atacama desert offers slightly unfavorable climate conditions with dust and high altitude but mild and very stable temperatures.

TLDR Legal Framework

- Current legal environment is neutral for miners.
- Future regulatory framework is expected to remain neutral.
- No specific law surrounding the mining industry, but established framework on cryptocurrencies and favorable policies on data centers as Chile aims at becoming a hub in Latin America.

TLDR Fiscal Framework

- Favorable tax regime with ability to shift the profit center abroad.
- No subsidies or fiscal incentives available for miners or data centers.
- There is no electricity tax.
- Neutral level of constraints to avoid or mitigate taxes.
- No upcoming favorable or unfavorable fiscal changes expected.

TLDR Permits & Licensing Regime

- An operating license is required and can be delivered in 6 - 9 months.

- Construction permits are secured in 6 - 9 months.
- Environmental impact assessment process is highly burdensome.
- Water-use permit is moderately restrictive for operations.
- Emissions, heat and noise compliance level is moderately significant for mining operations.
- Zoning restrictions have low impact land availability for data center development.

TLDR Energy Regulation & Grid Access

- Moderate level of barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times exceed 24 months.
- Electricity costs exceed the median ($55.0/MWh - $65.0/MWh) better rates in the north of the country but requiring substantial capital expenditures.
- Small-scale projects can benefit from recent reduced “Free Market” threshold allowing small industrial loads to access discounted power rates ($60.0/MWh to $70.0/MWh).
- High level of curtailment due to overloaded intermittent supply compared to transmission capacity.

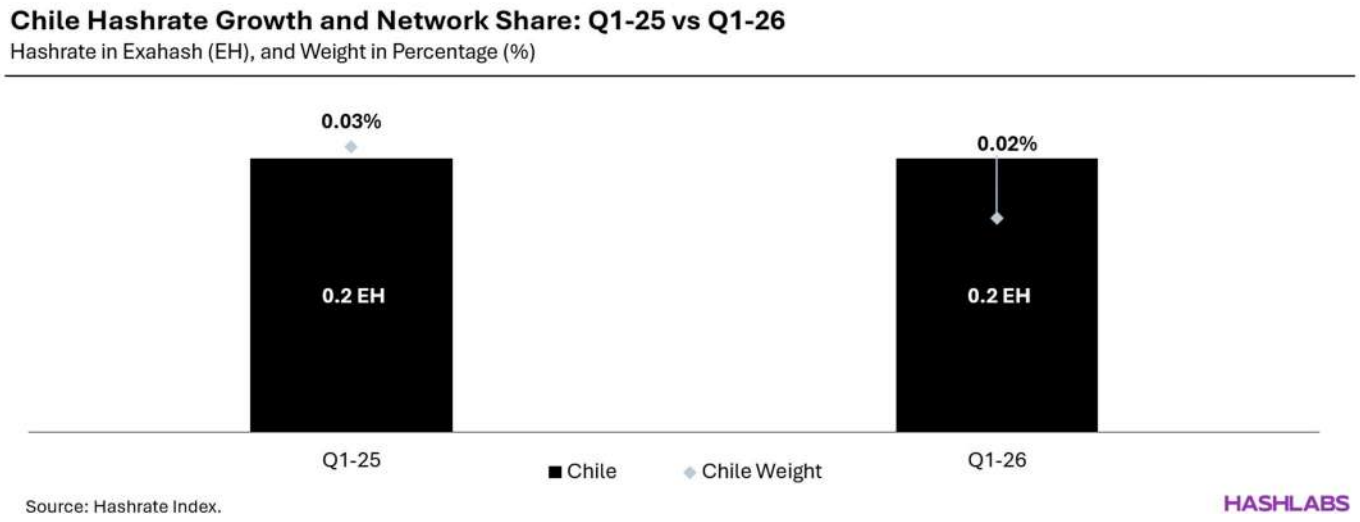
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 19.0% VAT.
- ASIC imports don’t require a license and are exposed to a 10.0% tariff (excluding VAT).
- Import procedures are highly favorable for ASICs and favorable for electrical infrastructure.
- Electrical equipment lead times have highly affected mining energization timelines (> 4 months).
- Mitigation mechanisms on import constraints are ineffective to cut tariffs.

TLDR Climate Operating Conditions – Atacama Desert

- Highly favorable temperatures in both summer and winter season.
- Quite modest diurnal spread temperatures (17.8°C).
- Favorable humidity level (63.0%) but highly significant altitude (~ 2 500 meters) and dust exposure.

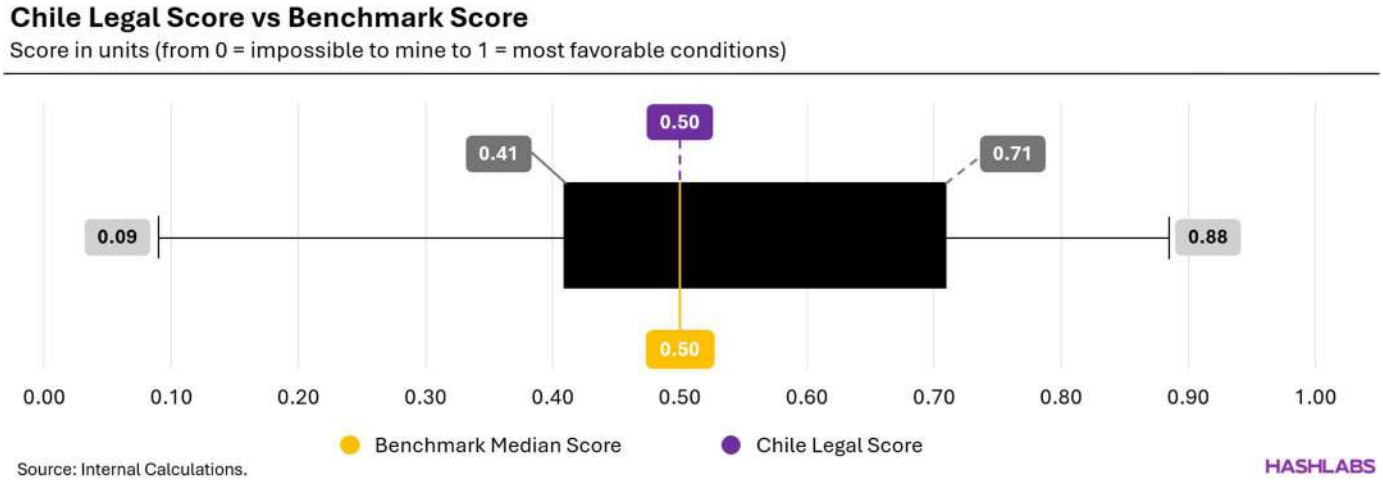
Chile Footprint



Chile hashrate is anecdotical in the global hashrate, according to Hashrate Index only 0.2 EH are active in the country since Q1-25. The absence of growth in the country is largely explained by energy barriers posed by high power costs and extended grid connections lead times. However, the severe level of curtailment due to the lack of transmission capacity coupled with high renewable energy production could provide attractive conditions. Though, it's uncertain if the environment can change in the near term.

Legal Framework

Chile's legal framework ranks 10th out of 18 countries, with a score of 0.50 against the benchmark average of 0.54 and the median of 0.50.



Chile stands out as one of the most politically stable[41] countries in South America, an attractive environment that remains largely neutral for miners. To date, no specific regulatory framework has been introduced to directly regulate, restrict, or incentivize mining activities. Notable events surrounding Bitcoin is the Fintech Law[42] (2022), which established a regulatory framework for exchanges and custodians and signaled the government's willingness to enable crypto-related investment.

In parallel, the government has increasingly advocated[43] for the data center industry, unveiling in 2025 a national strategy aimed at strengthening investment in the sector. Chile is frequently positioned as a

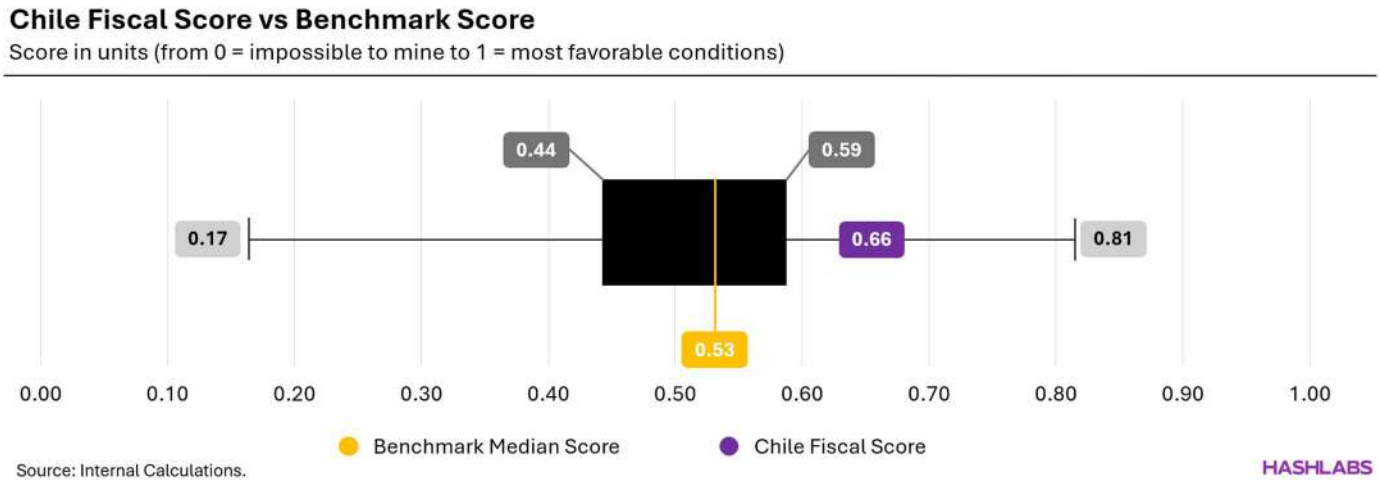
natural hub for sustainable data infrastructure, supported by abundant renewable energy resources, robust connectivity, and a pro-investment policy stance.

From an energy market perspective, authorities have diminished[44] the minimum demand threshold to 0.3 MW for accessing lower electricity tariffs, with prices reaching as low as $60.0/MWh. While modes, this adjustment could support the development of smaller-scale, co-located loads near renewable assets.

Bill	Description
Fintech Law - 2022	Legal **framework on cryptocurrencies** where the Financial Market Commission (CMF)
National DC Plan - 2024	National Data Center Plan **provides a regulatory framework for data centers** including: - Promotion of renewables to leverage new projects - Guidance on construction permits and environmental assessment
Revised Power Capacity Threshold - 2025	**Reduction of the connected-capacity threshold** from 500 kW to 300 kW to gain access to preferred Chilean power rates in the $60/MWh to $70.0/MWh range.

Fiscal Framework

Chile's fiscal framework ranks 3rd out of 18 countries, with a score of 0.66 against the benchmark average of 0.52 and the median of 0.53.



Chile offers a relatively favorable taxation environment for mining, notably allowing companies to shift the profit center offshore. The absence of a specific electricity tax and the availability of effective tax-mitigation mechanisms further support operational flexibility.

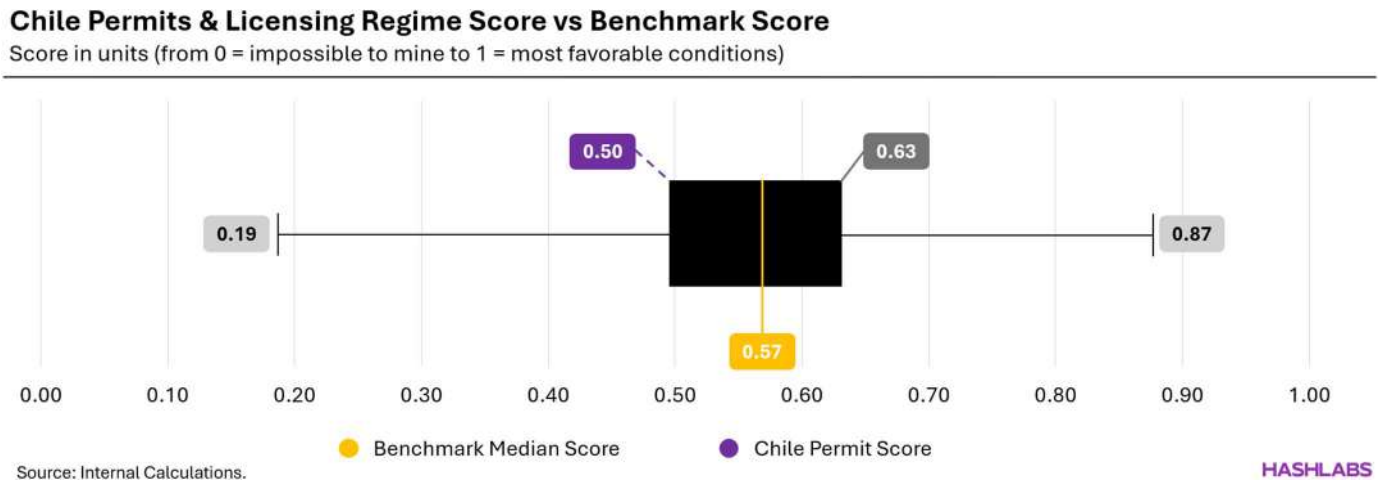
While there are no mining-specific fiscal incentives, operators may benefit from broader foreign investment programs[45], including VAT exemptions[46] on fixed assets for qualifying investments exceeding $5 million. In addition, up to 35.0% of eligible R&D expenditures can be credited against corporate income tax liabilities.

Bitcoin mining is treated as a conventional commercial activity and is therefore subject to Chile's standard corporate income tax rate of 27.0%.

Program Name	Description/Benefits
Foreign Investments Incentive	Tax authorities have developed a **legal framework to attract foreign investments**: - R&D tax credits: Companies that invest in research and development can deduct up to 35% of these expenses from their first-category tax, promoting applied innovation. - Specific exemptions: Depending on the type of investment and its location, certain income may be exempt from tax, especially in strategic sectors such as renewable energy or technology. - VAT exemption on Fixed assets, given that the company investments exceeds $5M.

Permits & Licensing Regime

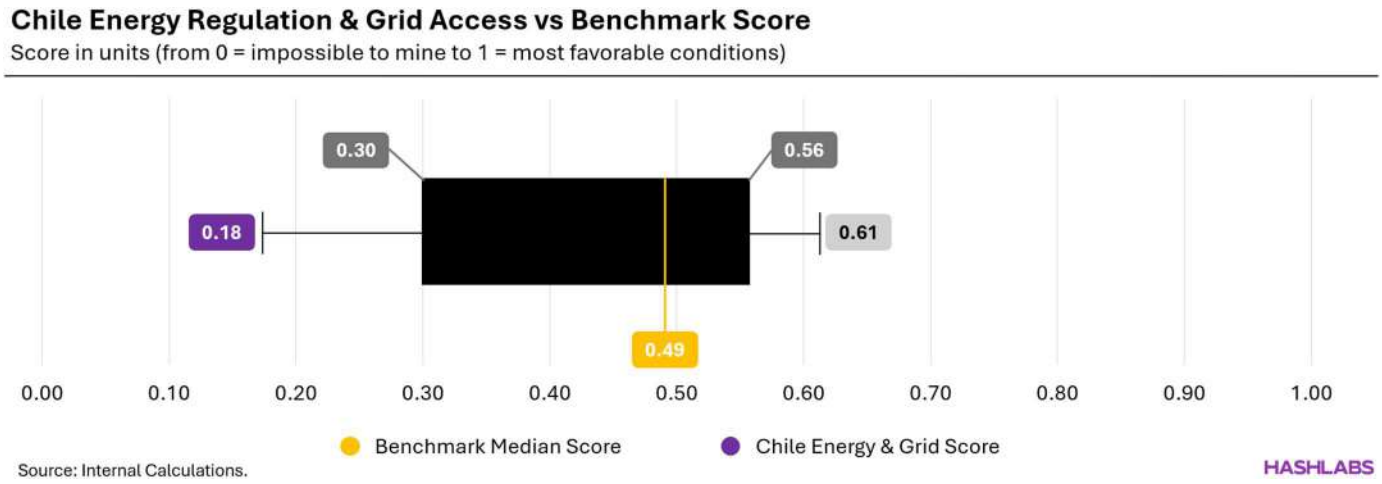
Chile's permit & licensing framework ranks 14th out of 18 countries, with a score of 0.50 against the benchmark average of 0.55 and the median of 0.57.



South America is characterized by administrative complexity and procedural delays, and Chile is no exception. Operating license is obtained a minimum of 6 months, while construction permits can take up to 9 months to be secured. Environmental impact assessments and water-use permits are burdensome, imposing strict conditions, as highlighted by the partial reversal of Google's permit[47] in 2024 over concerns about excessive water consumption and environmental impact. The national data center plan has provided greater clarity on sustainability targets, including water use, emissions, and energy efficiency. In contrast, zoning regulations have a very low impact on land availability, while emissions, heat, and noise restrictions impose moderate constraints on operations.

Energy Regulation and Grid Access

Chile energy regulation and grid access rank 18th out of 18 countries, with a score of 0.18 against the benchmark average of 0.44 and the median of 0.49.



Chile's energy mix is geographically[48] fragmented: large-scale solar generation is concentrated in the North (22.7% of total electricity supply), while wind and hydro dominate the South (11.8% and 29.6%, respectively). However, the country's main consumption hub – Santiago - lies centrally. This imbalance has resulted in persistent oversupply and high curtailment levels.

In 2024, 19.0% of solar and wind generation were curtailed[49], equivalent to 5 642.0 GWh, bringing cumulative curtailment-related losses to approximately $562 million since 2022. As in many power systems, generators receive no compensation for curtailed energy. Despite these dynamics, Chile currently lacks a formal demand response framework, largely due to regulatory and technical gaps.

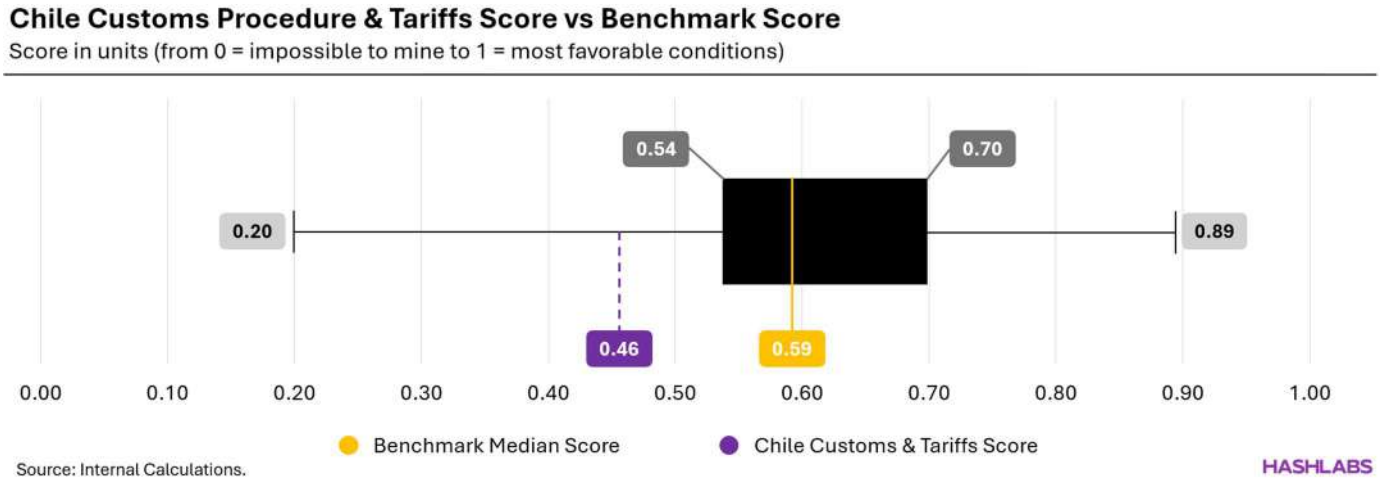
Transmission expansion is expected[50] post-2029 to better connect northern generation - where roughly half of the generation capacity is locate - to demand centers. Even so, renewable oversupply is likely to persist in the medium to long term. To better illustrate by the limited scale of transmissions capacity in the North has created a gap between transmission and generation surpassing 10.0 GW.

Chile has emerged as a regional data center hub[51], ranking second in Latin America behind Brazil, with approximately 0.3 GW installed in 2025 and projected capacity reaching 2.4 GW by 2032. However, despite strong connectivity, there are recurring challenges including transmission bottlenecks, lengthy permitting timelines, water usage constraints, high land costs, and regulatory complexity.

To partially address weak demand, authorities lowered the minimum power threshold to access lower-bound electricity tariffs from 0.5 MW to 0.3 MW, with rates ranging from $60.0/MWh to $70.0/MWh. Reflecting miners power rate exposure (between $55.0/MWh and $65.0/MWh).

Customs Procedure & Tariffs

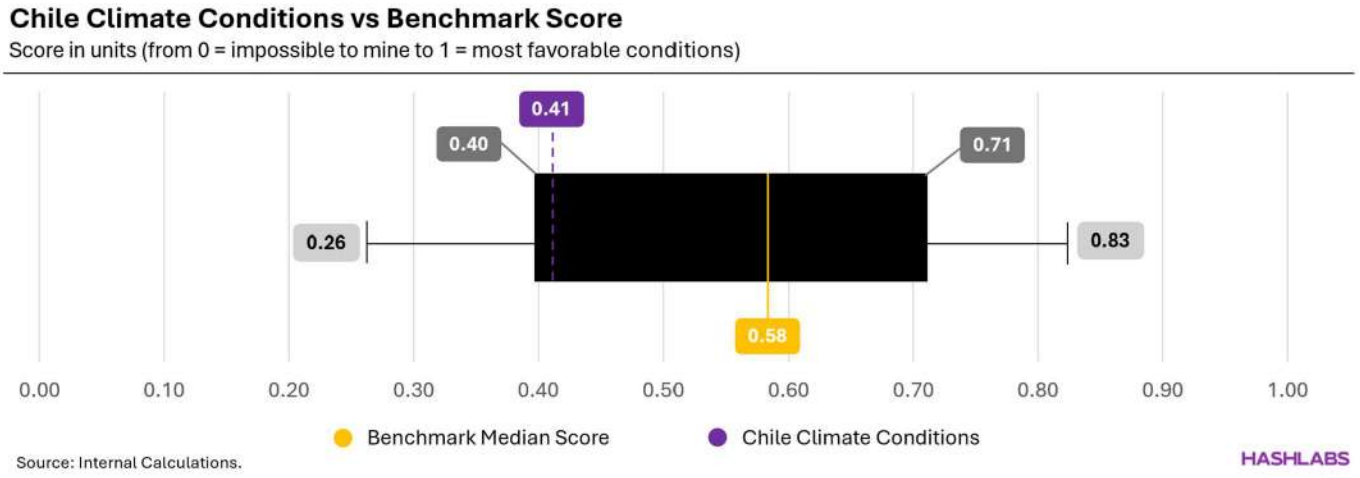
Chile tariffs and customs framework rank 16th out of 18 countries, with a score of 0.46 against the benchmark average of 0.60 and the median of 0.59.



Chile import process is favorable for ASICs and electrical equipment with limited administrative friction from tax authorities. However, mitigation mechanisms to reduce customs duties at 10.0% remain largely ineffective (excluding VAT at 19.0% which is non-refundable). Prolonged lead times for critical electrical equipment have delayed project energization timelines by more than 4 months.

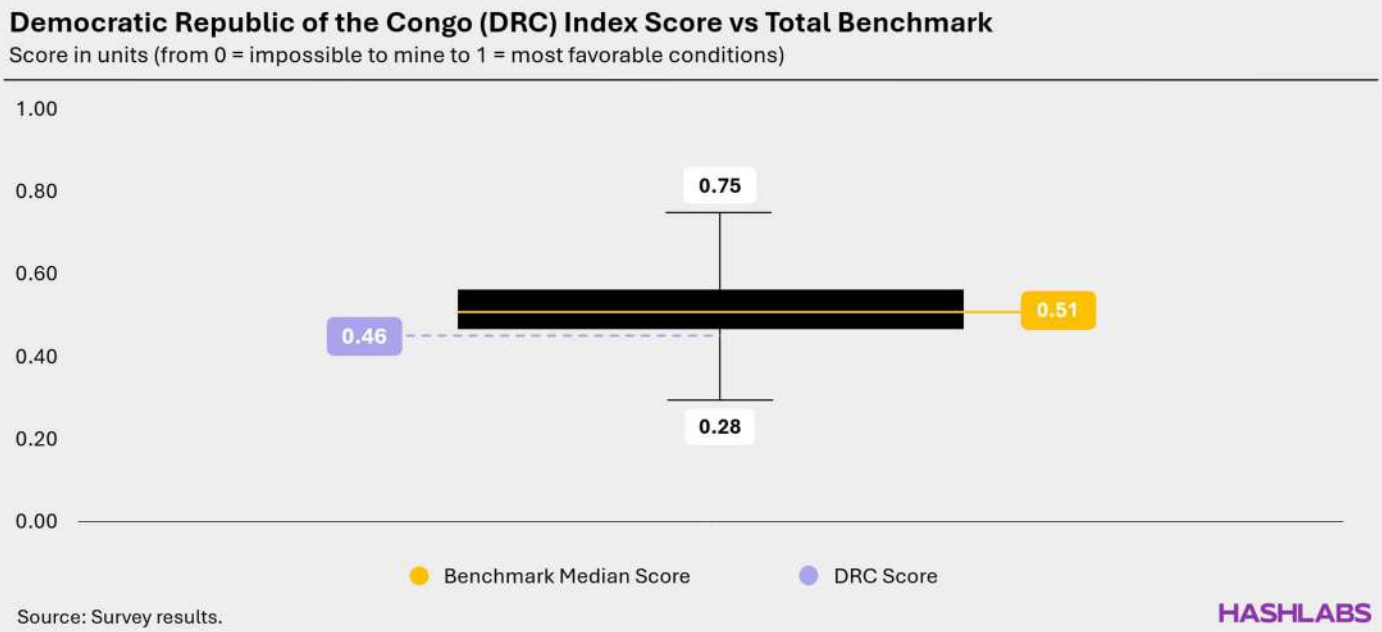
Climate Operating Conditions

Chile's climate operating conditions rank 13th out of 18 countries, with a score of 0.41 against the benchmark average of 0.57 and the median of 0.58.



Temperatures in the Atacama Desert are favorable, with a modest diurnal temperature range (17.8°C) and low humidity levels (63.0%). However, high dust exposure combined with the region's elevated altitude (~2,500 meters) affects ASIC monitoring and protection, increasing operational complexity and costs.

Democratic Republic of the Congo (DRC)



The Democratic Republic of Congo (DRC) scores 0.46, a superficially neutral rating that masks significant disparities across permitting, import, and energy frameworks. The country lacks a formal legal and permitting structure for mining, creating the illusion of neutral conditions. In practice, only small-scale operations can operate successfully using off-grid setups, as industrial-scale projects face elevated risks due to regional insecurity, limited electrical infrastructure, and pervasive corruption. Nevertheless, the North Kivu, where operations are concentrated, offers a favorable climate for mining operations.

TLDR Legal Framework

- Current legal environment is neutral for miners.
- Future regulatory framework is expected to remain neutral.
- Mining is unregulated at the time but remains legal as long as you comply with local laws.

TLDR Fiscal Framework

- Unfavorable tax regime with inability to shift the profit center abroad.
- No access to subsidies or fiscal incentives available for miners or data centers.
- There is no electricity tax.
- High level of constraints to avoid or mitigate taxes, but current operations in North Kivu are exempted from corporate income tax as they contribute to the protection of the National Virunga Park.

TLDR Permits & Licensing Regime

- No operating license is currently required to operate.
- Construction permits are secured within 3 - 6 months.

- Environmental, water permitting requirements and zoning laws are inexistant in the country leaving miners with flexibility to deploy their operations.

TLDR Energy Regulation & Grid Access

- High barriers to entry for energy market participation.
- Miners are either off-grid or on mini-grids, no interconnection challenge here.
- Unreliable grid and weak infrastructure.
- Electricity costs are lower than the median (< $35.0/MWh).
- Miners are used for agricultural developments in DRC such as drying food.

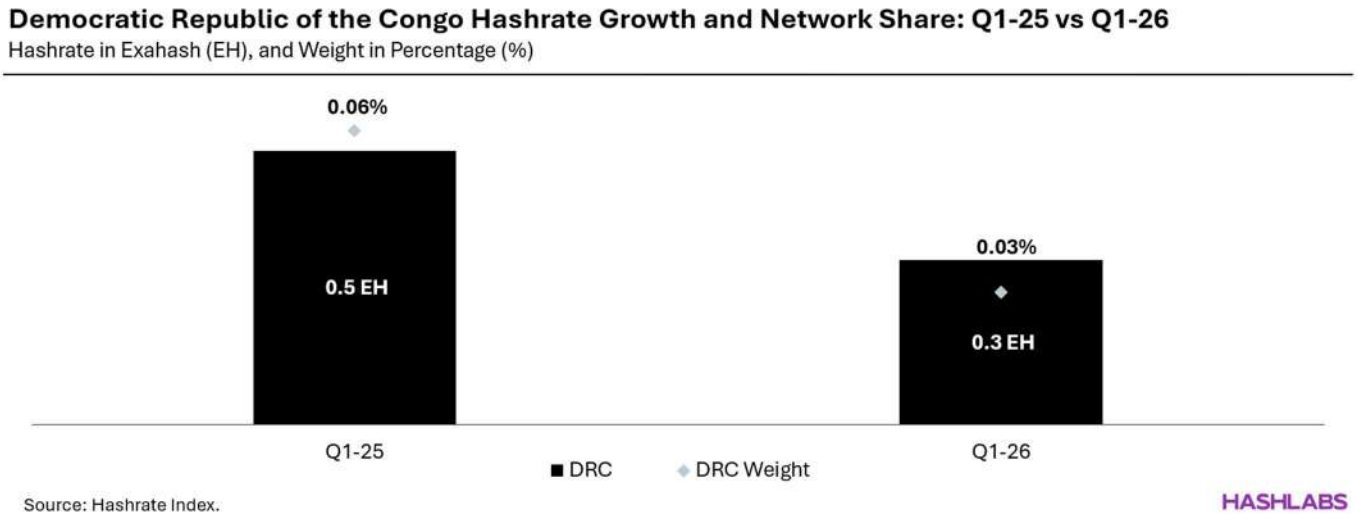
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 16.0% VAT.
- ASIC imports face license requirement and tariff can mount to 180.0% (including VAT).
- Import procedures are highly unfavorable for ASICs and electrical infrastructure.
- Administrative mitigation efforts are effective to circumvent taxes and accelerate deliveries.

TLDR Climate Operating Conditions – Nord Kivu

- Tropical climate with stable and highly favorable temperatures (15°C - 27°C).
- Very low diurnal temperatures spread (12°C).
- Moderate humidity level at 84.0% but spikes can be as high as 90.0%.
- Moderate level of altitude at 1 200 meters.

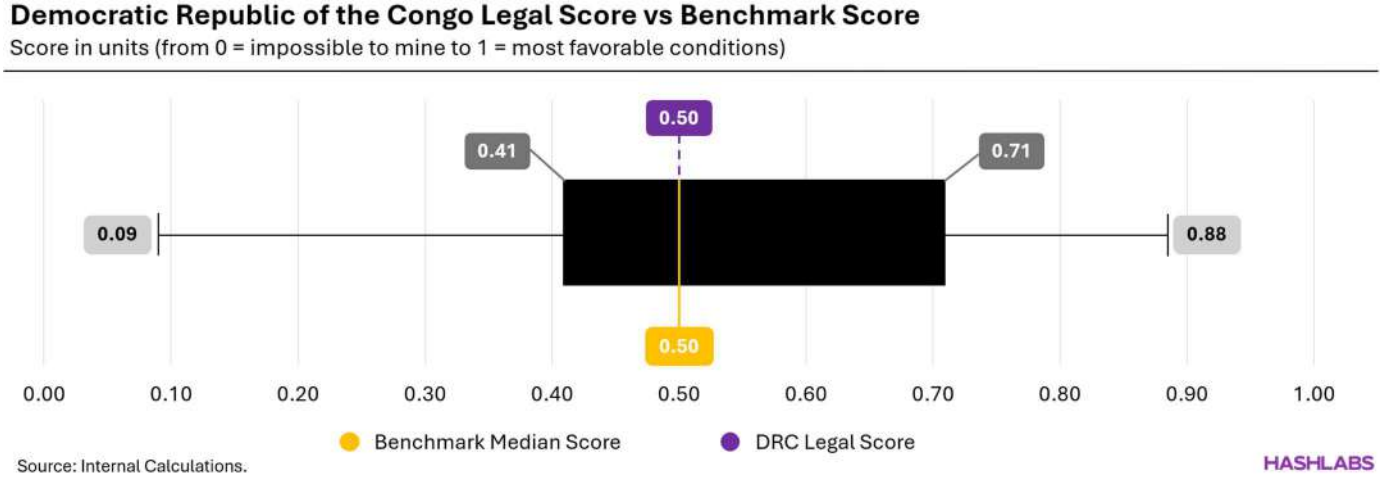
Democratic Republic of the Congo Footprint



DRC hashrate is anecdotical in the global hashrate, according to Hashrate Index only 0.3 EH are active in the country in Q1-26. Though no particular reason explains the hashrate drop, the absence of an industrial mining footprint is explained by the high risk exposure existing in DRC North Kivu (where miners are installed), with the presence of rebel groups, the weakness of the electrical infrastructure and high level of corruption.

Legal Framework

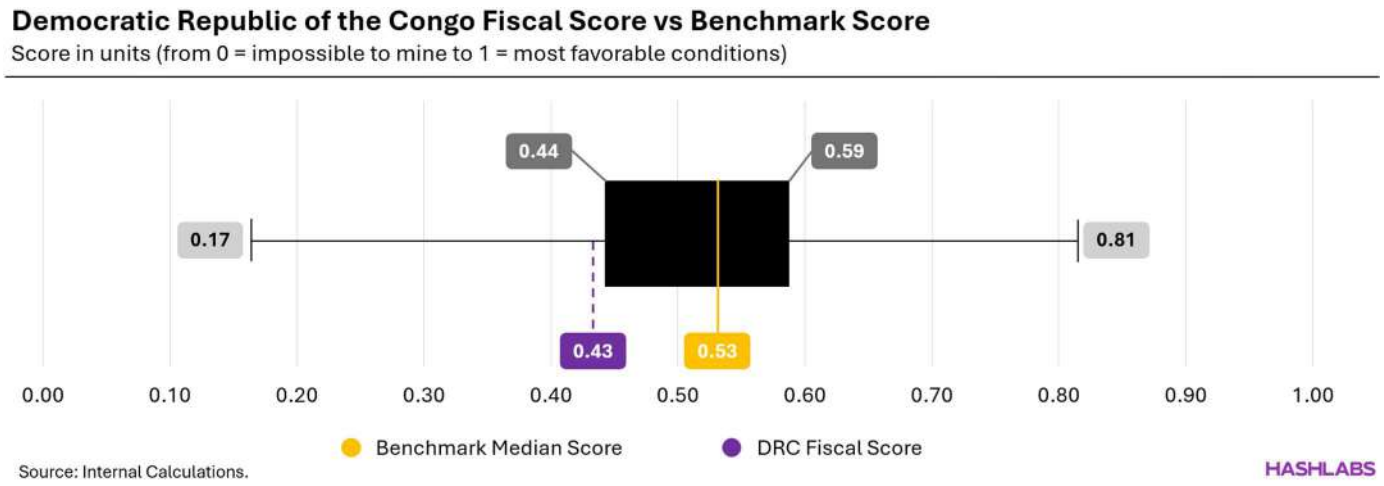
DRC's legal framework ranks 11th out of 18 countries, with a score of 0.50 against the benchmark average of 0.54 and the median of 0.50.



In Democratic Republic of the Congo, mining purely operates in a grey zone due to the lack of regulation. The absence of framework is partially explained by the residual size of mining in the country primarily located either off-grid or on mini-grid. Most activities are located in North Kivu in the Virunga National Park tapping into stranded hydropower and are benefiting to the Park sustainability. Respondents expect this neutral environment to remain allowing continuity in their operations.

Fiscal Framework

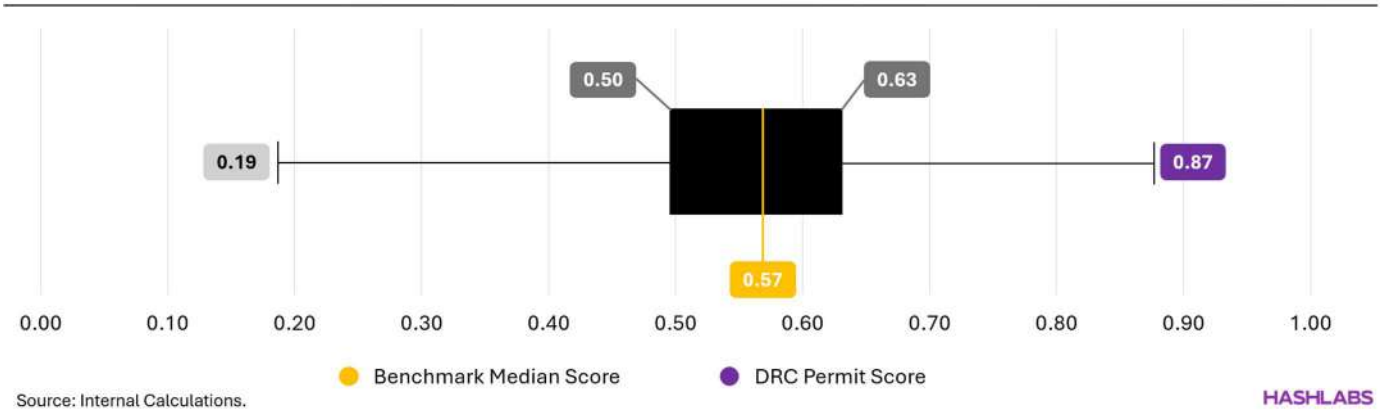
DRC's fiscal framework ranks 15th out of 18 countries, with a score of 0.43 against the benchmark average of 0.52 and the median of 0.53.



Operating within Virunga National Park, mining operations benefit from a 0.0% CIT and are not exposed to electricity taxes. Given the embryonic stage of mining, no subsidies or tax abatements are currently in place. Despite these headline advantages, the DRC's fiscal environment remains unfavorable, as relocating profit centers offshore is illegal, and avoiding taxes is deemed highly difficult in a country marked by corruption.

Permits & Licensing Regime

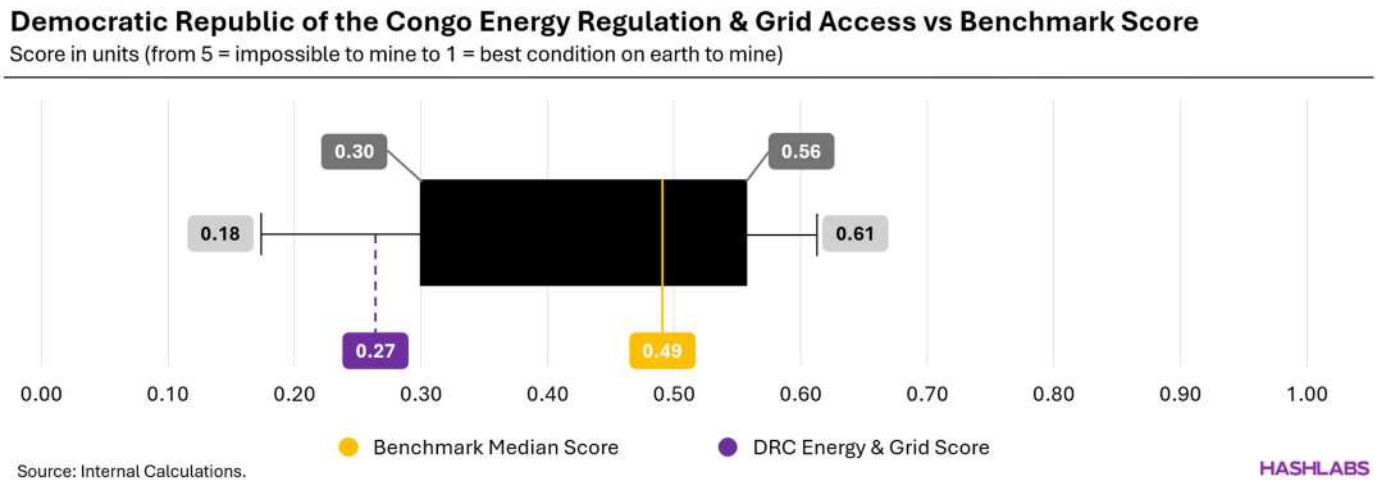
DRC's permit & licensing framework ranks 1st out of 18 countries, with a score of 0.87 against the benchmark average of 0.55 and the median of 0.57.



The country underdeveloped permit framework makes it very easy to settle operations, especially in remote areas like North Kivu. No specific zoning regulation, or preliminary environmental impact assessment apply facilitating the deployment of small-scale sites. Only construction face a permitting requirement that can be locked within 3 to 6 months.

Energy Regulation and Grid Access

DRC energy regulation and grid access rank 16th out of 18 countries, with a score of 0.27 against the benchmark average of 0.44 and the median of 0.49.



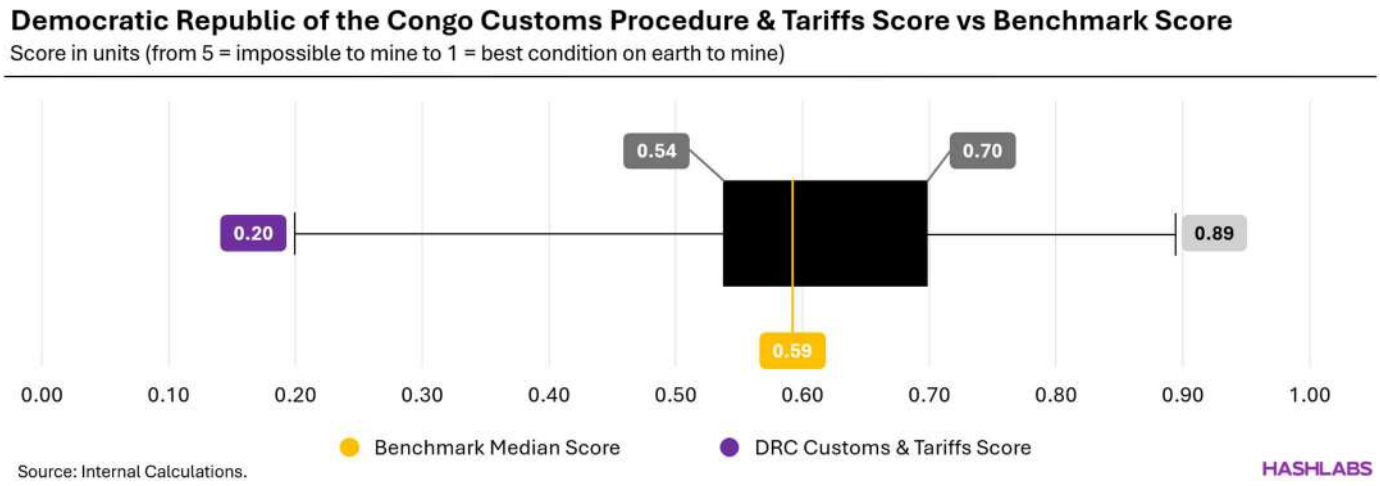
The country's power generation relies almost exclusively on hydropower[52], with vast untapped potential - most notably along the Congo River, which could generate over 40.0 GW[53]. Despite this abundance, decades of underinvestment and aging infrastructure have left only 21.7%[54] of the population with access to electricity, resulting in severe transmission losses and frequent blackouts.

The national grid is operated by the state-owned utility SNEL, though the electricity market has been partially liberalized since the adoption of Law No. 14/011[55], in 2014. This legislation allows private power producers to sell electricity directly to consumers, bypassing SNEL, and has enabled the development of mini-grid and off-grid solutions. In regions such as North Kivu, mining activities operate entirely off-grid, tapping into stranded hydropower at highly competitive prices (< $35.0/MWh). Nevertheless, securing reliable grid access or power supply remains highly difficult.

In 2025, Ordinance No. 25/025[56] updated the 2014 framework, aiming to standardize renewable energy systems, streamline licensing through a unified permit for rural electrification projects, and clarify institutional responsibilities in concession granting. These reforms seek to reduce bureaucratic friction and facilitate private investment in energy infrastructure.

Customs Procedure & Tariffs

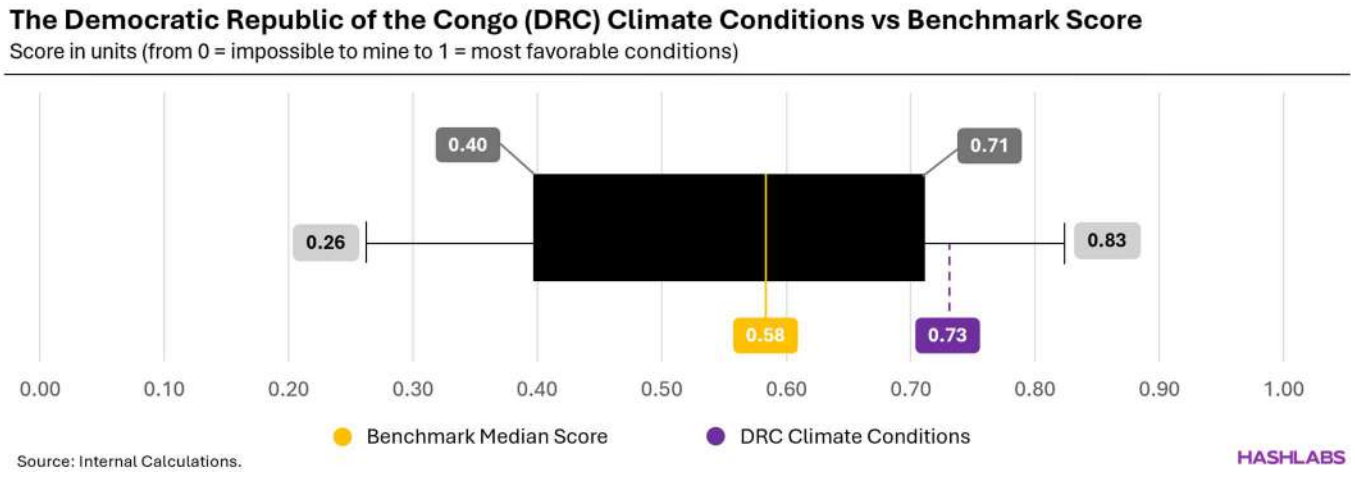
DRC Argentina tariffs and customs framework rank 18th out of 18 countries, with a score of 0.20 against the benchmark average of 0.60 and the median of 0.59.



High levels of corruption are materially affecting import procedures and tariff enforcement. Importing equipment - whether electrical infrastructure or mining hardware - can be exceptionally challenging due to heightened risks of seizure, diversion, or theft. In addition, ASIC miners are reportedly subject to punitive import tariffs of up to 180.0%, rendering conventional import channels economically unviable. As a result, mining operators are often compelled to establish and manage proprietary supply chains to secure equipment and mitigate import-related risks.

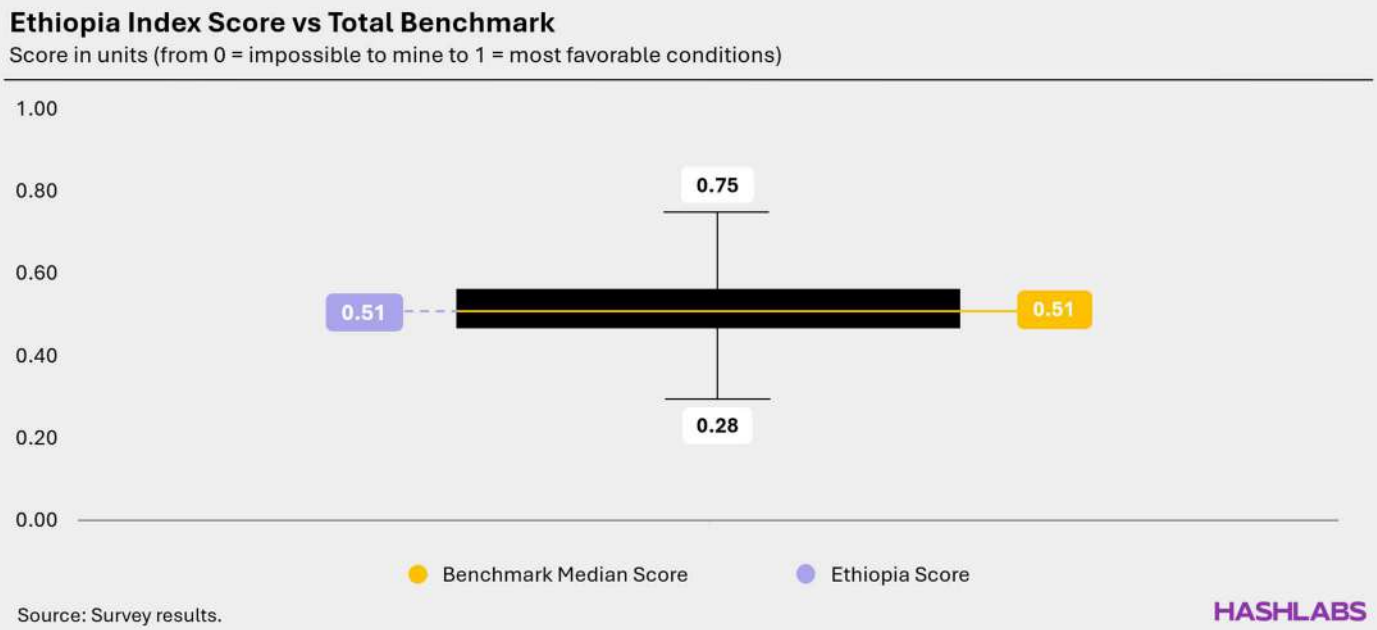
Climate Operating Conditions

DRC's climate operating conditions rank 5th out of 18 countries, with a score of 0.73 against the benchmark average of 0.57 and the median of 0.58.



The tropical climate of the DRC provides relatively stable and favorable ambient temperatures (15°C to 27°C) throughout the year. While humidity levels can be elevated (84.0%) these conditions remain manageable through appropriate maintenance practices and container-level adaptations. Additionally, the country's average altitude of roughly 1,200 meters warrants consideration, as reduced air density can affect heat dissipation within ASIC chips, potentially impacting efficiency and increasing failure risks if not adequately addressed through airflow and cooling design.

Ethiopia



Ethiopia scores 0.51, a neutral rating that contrasts with the sharp increase in hashrate observed in recent years. This growth has been driven by permissive zoning and environmental regulations, low and stable electricity prices, minimal tariffs. However, this expansion is expected to stall after regulations suspended the issuance of power permits for mining operations in 2024 and electricity tariffs hike between December 2025 and July 2028. A volatile legal framework is likely to deter new entrants and constrain both data center development and fleet renewal. Ethiopia benefits from stable and favorable temperatures but altitude is elevated (~ 2 500 meters) and humidity is important during rainy seasons.

TLDR Legal Framework

- Current legal framework is slightly unfavorable for miners.
- Future regulatory framework is expected to worsen.
- Power purchase framework could evolve implying a higher role from the government.

TLDR Fiscal Framework

- Slightly unfavorable tax regime with inability to shift the profit center abroad.
- There is no electricity tax but recent power rates hikes have triggered uncertainty in Ethiopia.
- No subsidies but fiscal incentives available for miners such tax breaks on CIT and VAT.
- Neutral level of constraint to avoid or mitigate taxes.
- Speculation around adoption of additional taxes and profit sharing structure between private companies and the government.

TLDR Permits & Licensing Regime

- An operating license is required and can be delivered in less than 3 months but issuance of new licenses stopped since February 2024.

- Construction permits are secured in 8 months on average.
- Environmental impact assessment process is unrestrictive for data center construction.
- Water-use permits are not required.
- Emissions, heat and noise compliance level is unsignificant for mining operations.
- Zoning restrictions neutrally impact land availability for data center development.

TLDR Energy Regulation & Grid Access

- High barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times ranged from 6 - 12 months.
- Electricity costs are lower than the industry median ($35.0 - $42.5/MWh) but will incrementally rise.
- Miners grid status is unfavorable compared to other participants, , with electricity VAT rates higher than those applied to other industries.

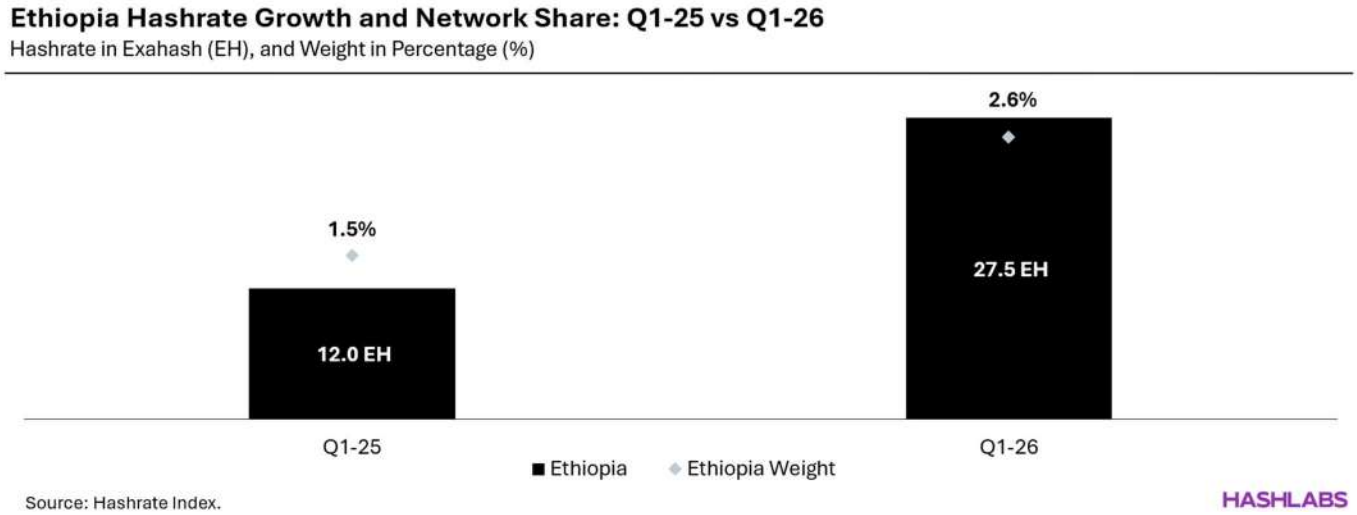
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 15.0% VAT but has not been applied yet.
- ASIC imports require a license and are exposed to 3.0% tariff (excluding VAT) but if there is no effective mitigation mechanisms it can raise up to 15.0% (excluding VAT) depending on HS classification and clearing treatment, stressing the importance of dealing with an experienced clearing agent.
- Import procedures are slightly unfavorable for ASICs and electrical infrastructure due to computer import restrictions. Customs usually take weeks if not months.
- Electrical equipment lead times historically affected mining energization timelines (3 - 6 months).
- Administrative mitigation efforts are slightly effective to accelerate deliveries or cut tariffs.

TLDR Climate Operating Conditions – Addis Ababa

- Highly favorable temperatures in summer and winter.
- Low diurnal temperatures spread (17.3°C).
- Favorable humidity level (63.0%) but that can spike during rainy season (>85.0%) but highly significant altitude (~2 400 meters).

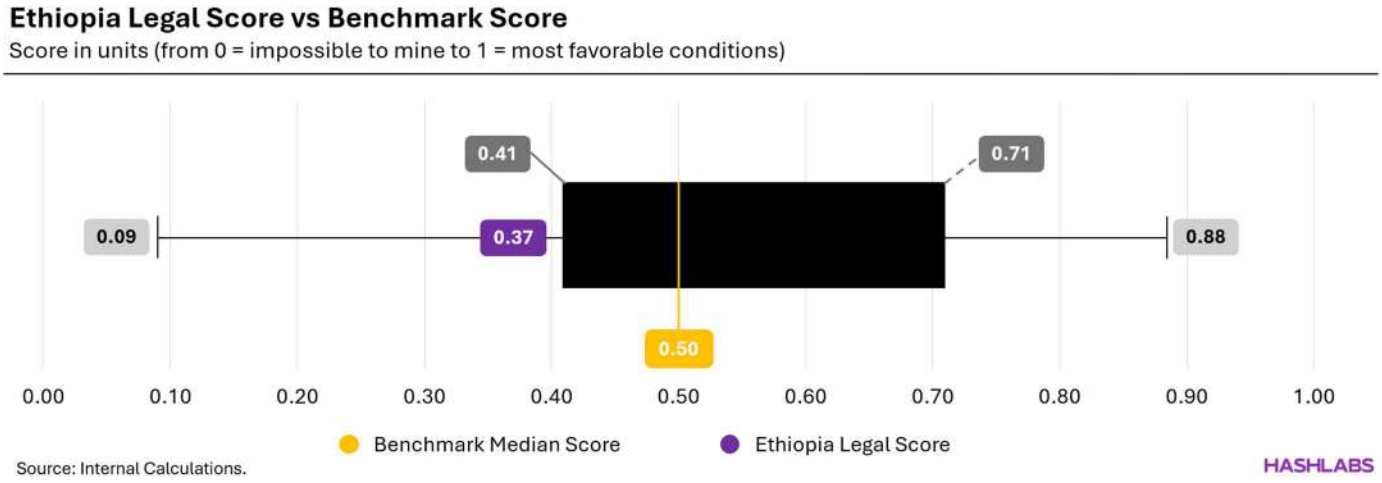
Ethiopia Footprint



Ethiopia has been the African hub spot, promoting the use of abundant hydro power. Attracting miners to monetize their energy surplus, Ethiopia hashrate surged from 12 EH in Q1-2025 to 27.5 EH in Q1-2026, hitting 2.6% of the network computing power. This rise might actually slow down and only relies on fleet upgrades as power rates increases has been enacted and issuance of new licenses has been halted.

Legal Framework

Ethiopia's legal framework ranks 14th out of 18 countries, with a score of 0.37 against the benchmark average of 0.54 and the median of 0.50



Ethiopia strongly incentivized[57] the sector over the past years, with the ratification of favorable "*mining*" laws and an access to highly affordable power rates (roughly $30.0/MWh). In 2023, the government supported this trend opening a licensing program led by the Information Network Security Agency (INSA) opening Ethiopia hydro power to 21 actors with 20 actors pending[58] since the government stopped[59] issuing operating licenses in early 2024 and officially suspended[60] the program a year after.

This reversal further intensified in 2025, when the Ethiopian Electric Power (EEP) announced[61] tariffs hikes on electricity prices for mining customers, reflecting its long-standing political instability[62]. This non-permanent regulatory cushion characterizing bitcoin mining could have a profound impact on the future of

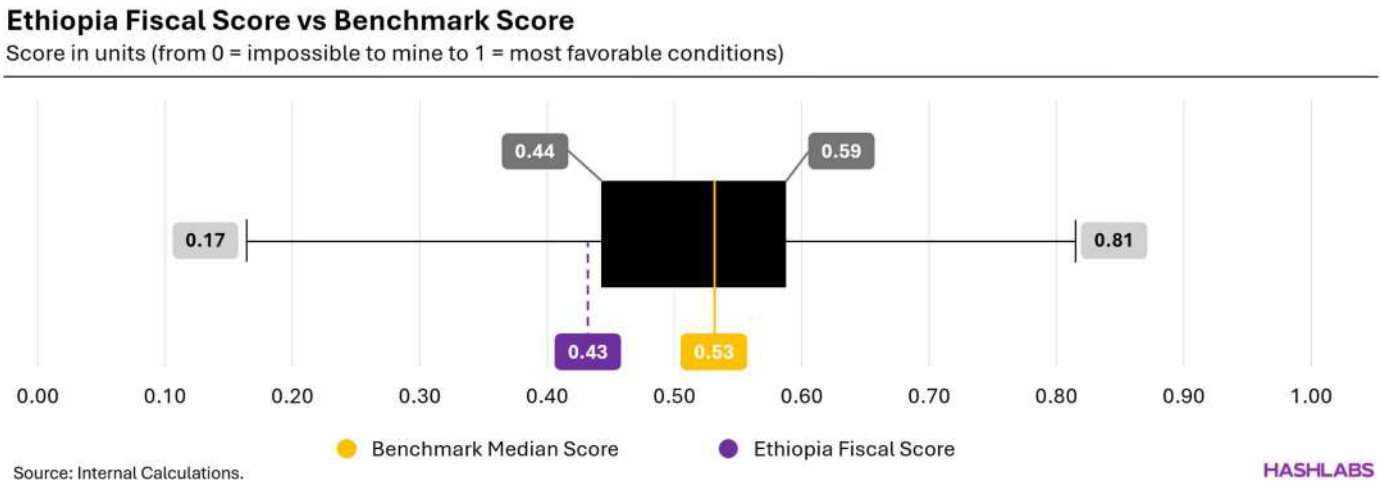
Ethiopia hashrate as respondents assesses an unfavorable legal environment in the future that could force them to scale back or exit. This can actually hurt electrical power economics[63] of the EEP knowing that the company earned $55M in 2024 and about $220M in 2025 as activity expanded.

The power purchase framework could also evolve toward a profit share agreement, similar to Bhutan, where the government is recovering the opportunity cost on low energy rates periods. It would imply a fix rate for miners, while the government could earn the difference when electricity goes below this rate.

Bill	Description
HPC/Mining Laws - 2022	Ratification of several laws to support the Bitcoin Mining industry development.
Operating license Suspension - 2025	Ethiopia officially **freezes new power permits** after stopping issuance in February 2024 with plan to gradually phased-out operation.

Fiscal Framework

Ethiopia's fiscal framework ranks 14th out of 18 countries, with a score of 0.43 against the benchmark average of 0.52 and the median of 0.53.



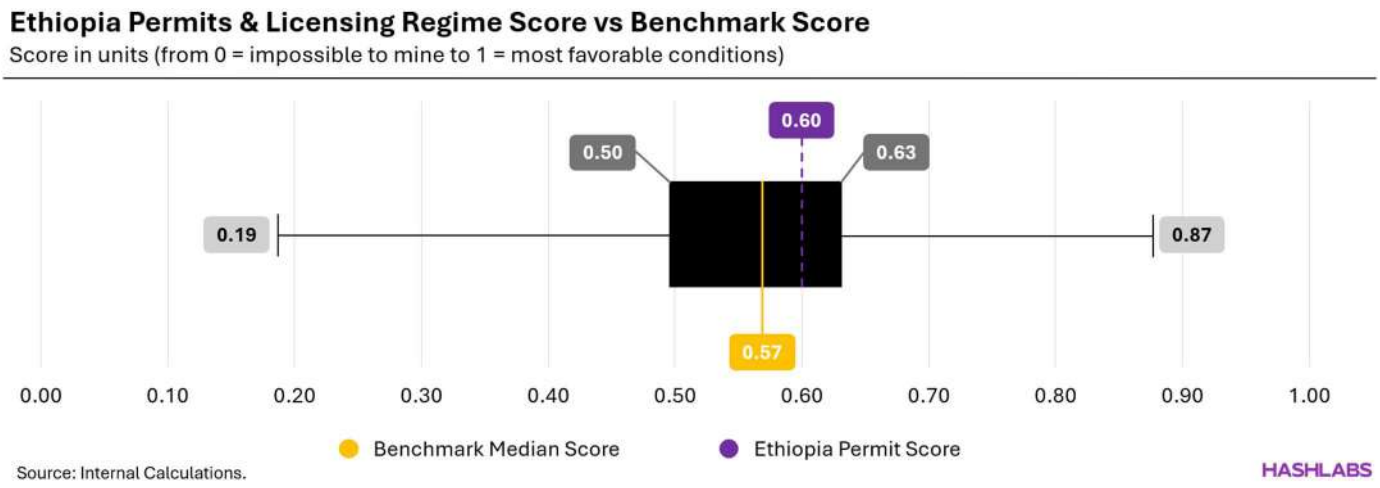
The current taxation environment in Ethiopia is slightly unfavorable for miners with inability to shift the profit center into another country, 30.0% corporate tax rate is not paid yet by miners as companies can be eligible to 1 - 5 years tax exemptions via foreign investment program, but recent electricity tariff hikes has created a large uncertainty and backlash for operators.

This power rate revision occurs as state utility insisted that the decision to revise tariffs is part of a wider effort to ensure the financial stability of the power sector, particularly as industrial energy demand accelerates. The tariff revision would propelled electricity costs from $31.4/MWh pre-revision period to a gradual escalation at a mean $65.0/MWh by 2027, doubling rates while the halving will be nearing by the first half of 2028.

Program Name	Description
Electricity Tax Hike - 2025	**New Electricity tariff** enforced by the EEP on bitcoin miners consumption (inclusive of regulatory fee and VAT at 15.0%): - Dec-25 to Jul-26**: $40.0/MWh average** - $60.0/MWh during peak hours, $45.0/MWh shoulder hours (5am to 9am), $35.0/MWh Off-peak. - Jul-26 to Jul-27: **$50.0/MWh average** - $63.0/MWh during peak hours, $56.0/MWh shoulder hours (5am to 9am), $47.0/MWh Off-peak. -Jul-27 to Jul-28**:$65.0/MWh average** - $72.0/MWh during peak hours, $65.0/MWh shoulder hours (5am to 9am), $64.0/MWh Off-peak.
Profit Sharing on Power Contracts	**Speculation surrounding profit share program** between private miners and the government.

Permits & Licensing Regime

Ethiopia's permit & licensing framework ranks 8th out of 18 countries, with a score of 0.60 against the benchmark average of 0.55 and the median of 0.57.

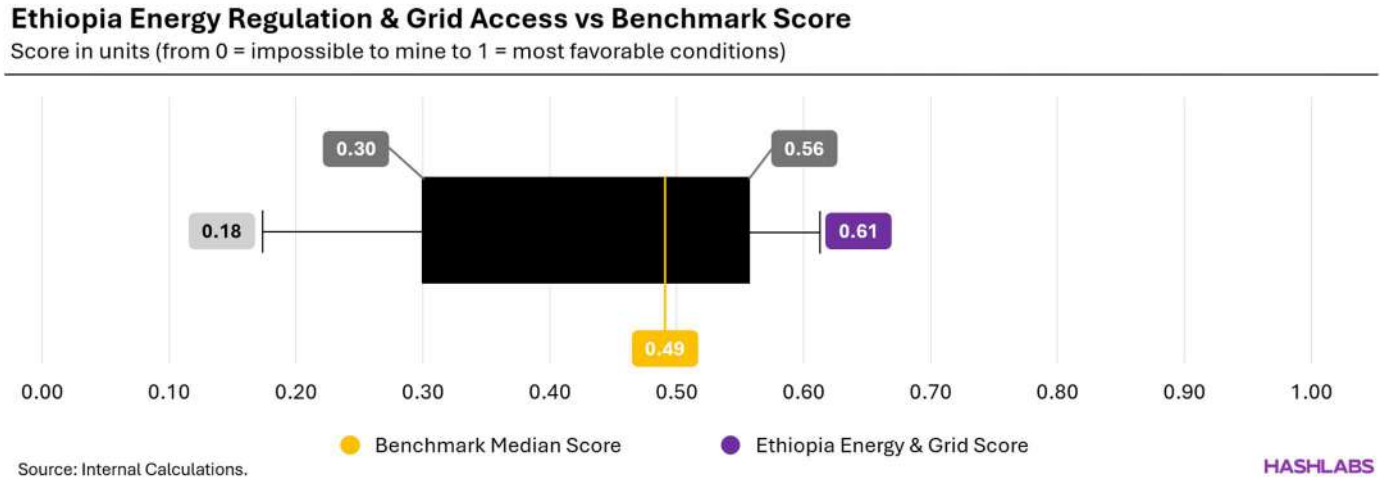


Ethiopia is halting new electric power permits for mining companies, freezing the expansion of mining operations. The decision follows a surge in interest, with 21 bitcoin mining firms already operating in the country and nearly 20 awaiting for approval.

Construction permits are depending on the project size ranging from less than 6 months for small projects to 12 months for larger ones. Water permits are not required and environmental impact assessments is not burdensome. Zoning regulation remain neutrally restrictive on land availability while emissions, heat and noise restrictions are unsignificant on operation.

Energy Regulation and Grid Access

Ethiopia energy regulation and grid access rank 1st out of 18 countries, with a score of 0.61 against the benchmark average of 0.44 and the median of 0.49.



Ethiopia is endowed with abundant hydropower resources, which account for approximately 96.0%[64] of its installed electricity generation capacity. Yet, less than 20.0% of the country's economically exploitable hydropower[65] potential has been developed to date—even after the completion of the Grand Ethiopian Renaissance Dam (GERD)[66], which added 5.0 GW of capacity and underpins plans to expand total national generation capacity to 17.0 GW over the next decade.

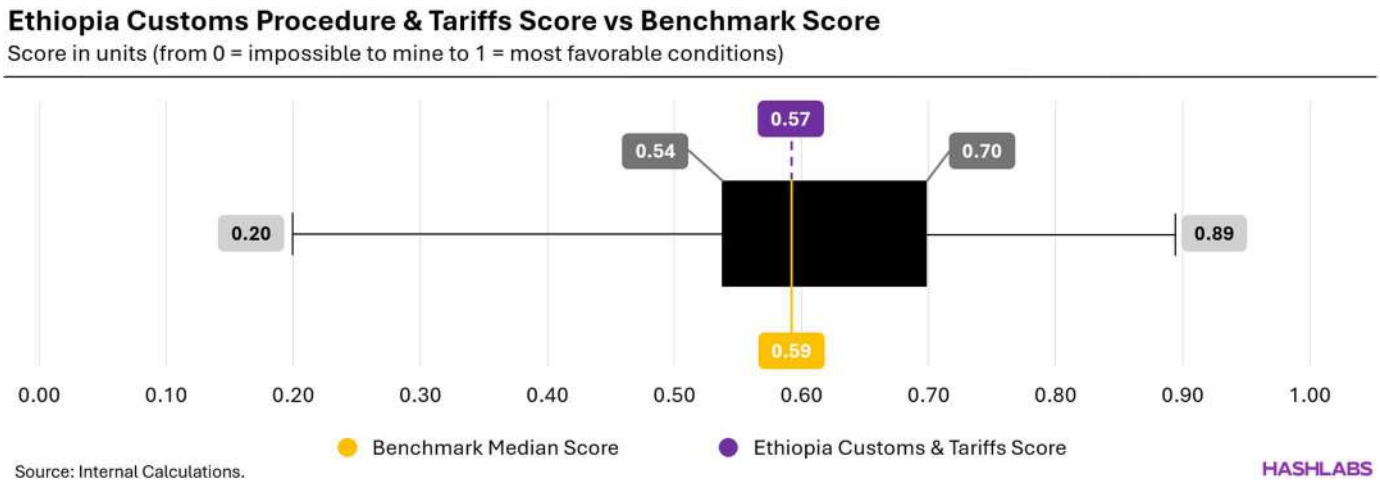
This structural surplus historically translated into some of the lowest industrial electricity tariffs globally - with power priced as low as $22.0/MWh - creating a highly attractive environment for bitcoin mining. However, as in many emerging power systems, transmission infrastructure has lagged generation capacity. With only around 51.0% of the population having access to electricity, large volumes of power remained stranded, a windfall for miners capable of monetizing excess generation providing revenues to support grid development.

This dynamic recently shifted. Ethiopia Electric Power (EEP) revised its tariff structure, raising electricity prices for miners with further increases expected over time (see fiscal section). Miners unfavorable status compared to other participants is particularly prevalent with higher VAT on power purchases than in any other industries.

The rapid influx of mining operations sharply increased regional power demand, elevating barriers to entry and significantly extending grid connection timelines. While grid access is in 6 to 12 months through a power purchase agreement (PPA)[67] with EEP, new mining operations are now effectively excluded under EEP's updated roadmap.

Customs Procedure & Tariffs

Ethiopia tariffs and customs framework rank 10th out of 18 countries, with a score of 0.57 against the benchmark average of 0.60 and the median of 0.59.

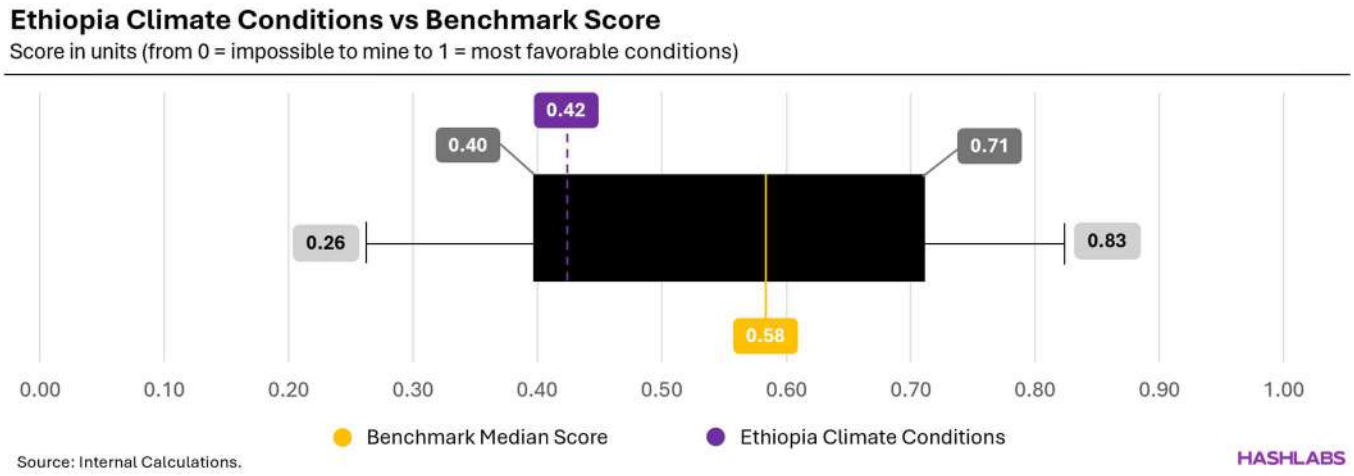


To import mining machines, companies must obtain an import license from the INSA. In principle, ASIC imports are subject to a 15.0% VAT, however, to date, this tax has not been enforced on mining hardware. That said, uncertainty remains around the future application of VAT, including the possibility of retrospective assessments on prior imports that did not incur the tax.

In practice, the import process was burdensome for several operators. As emphasized by the operations director at QRB Labs, “Low power tariff rates were Ethiopia’s only real advantage [...] everything else, including bureaucracy, logistics, and infrastructure, has always been difficult.” Despite relatively low tariffs on ASICs (at 3.0% but can mount to 15.0% - excluding VAT - depending on clearing agent experience), procurement and deployment timelines have been substantially affected by administrative delays at customs and by the INSA. Nonetheless, undisclosed mitigation mechanisms have enabled operators to partially offset these constraints and reduce effective tariff exposure, as customs clearance would otherwise take weeks, if not months, without such measures.

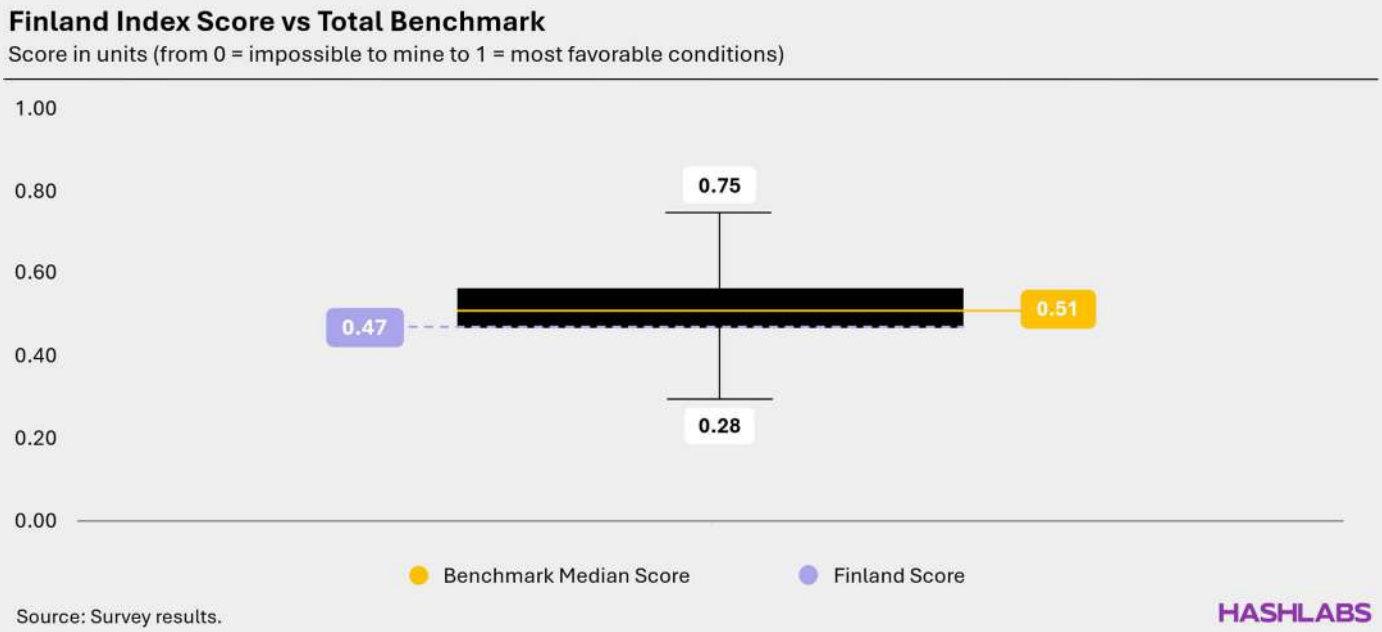
Climate Operating Conditions

Ethiopia's climate operating conditions rank 11th out of 18 countries, with a score of 0.42 against the benchmark average of 0.57 and the median of 0.58.



In Addis Ababa, temperatures are favorable for mining operations. During the rainy season, however, elevated humidity can pose operational challenges. The most notable constraint is the city's high altitude (~2 400 meters), which necessitates careful monitoring and protection of ASICs air density can affect heat dissipation within ASIC chips, potentially impacting efficiency and increasing failure risks if not adequately addressed through airflow and cooling design.

Finland



Finland scores 0.47, reflecting neutral conditions for establishing mining operations. The regulatory framework has become particularly restrictive for data centers, driven by concerns over potential electricity price increases for retail consumers and grid constraints. In response, authorities have increased electricity taxes for data centers, though mining farms that integrate heat reuse can bypass these levies.

Additional headwinds came from the VAT policy: tax authorities have begun reclaiming VAT on older miner purchases, now considering mining a non-eligible industry. This creates a substantial burden, though relocating the profit center abroad can mitigate the impact, albeit adding administrative complexity. Otherwise, permitting, energy regulation, and electricity costs remain broadly neutral for miners and climate conditions are highly favorable despite significant humidity in some part of the country.

TLDR Legal Framework

- Current legal framework is unfavorable for miners.
- Future regulatory framework is expected to remain unfavorable.

TLDR Fiscal Framework

- Unfavorable tax regime but ability to shift the profit center abroad.
- There is an electricity tax that increased from €0.5/MWh to €22.4/MWh ($0.59 to $26.4/MWh) in 2026.
- No subsidies or fiscal incentives available for miners.
- Significant level of constraint to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- No operating license is required for miners.
- Construction permits are secured in 3 - 6 months.
- Environmental and water permitting requirements are neutrally burdensome for new data center construction.
- Emissions, heat and noise compliance level is moderately significant for mining operations.
- Zoning restrictions neutrally impact land availability.

TLDR Energy Regulation & Grid Access

- Moderate barriers to entry for energy market participation or grid interconnection
- Grid connection lead times range from 12 - 18 months.
- Electricity costs are slightly higher than the median ($47.5 – $55.0/MWh).
- Miners grid status is favorable compared to other participants participating in demand response program and heat reuse for residential homes.

TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 25.5% VAT.
- ASIC imports do not require a license and are not exposed to any tariff (excluding VAT).
- Import procedures are neutral for ASICs and unfavorable for electrical infrastructure.
- Electrical equipment lead times have slightly affected mining energization timelines (2 to 3 months).
- Mitigation mechanisms on import constraints are effective to accelerate deliveries or avoid VAT.

TLDR Climate Operating Conditions - South Ostrobothnia

- Highly favorable temperatures level in summer and favorable in winter.
- Slightly favorable diurnal temperatures spread in summer (6°C to 25°C).
- Highly unfavorable humidity level 87.0%

Finland Footprint

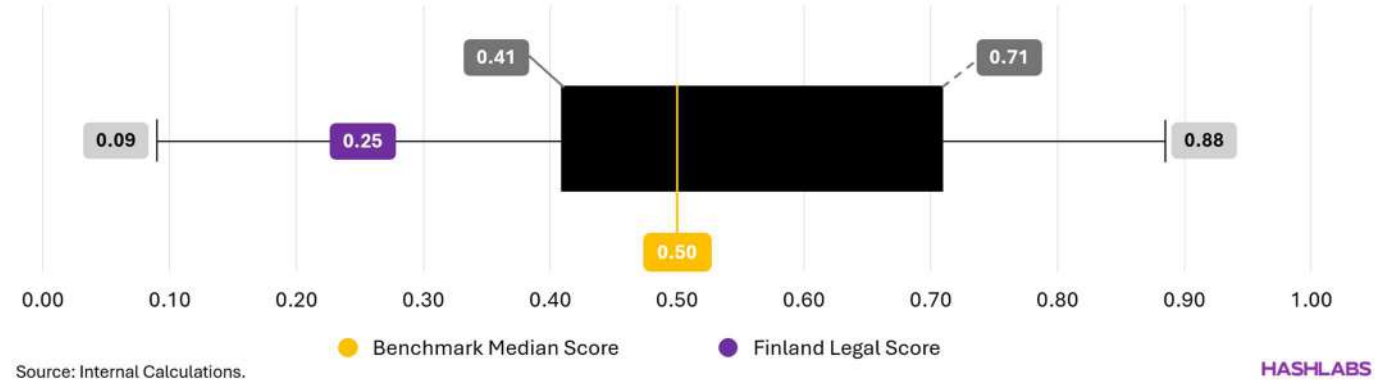
Finland Hashrate Growth and Network Share: Q1-25 vs Q1-26
Hashrate in Exahash (EH), and Weight in Percentage (%)

In Finland hashrate doubled from 4.0 EH in Q1-2025 to 8.0 EH in Q1-2026 despite VAT backlash - as mining is not recognized as a VAT eligible industry after bypassing VAT on previous imports. Along with recent electricity tax increase amid power shortage concerns due to rising data center appetite, the mining industry is expected to stabilize in Finland. Only small operations ranging from 1.0 MW to 5.0 MW integrate to district heating can benefit from the electricity tax abatement paving the way to a small-scale mining Finish industry.

Legal Framework

Finland's legal framework ranks 16th out of 18 countries, with a score of 0.25 against the benchmark average of 0.54 and the median of 0.5

Finland Legal Score vs Benchmark Score
Score in units (from 0 = impossible to mine to 1 = most favorable conditions)

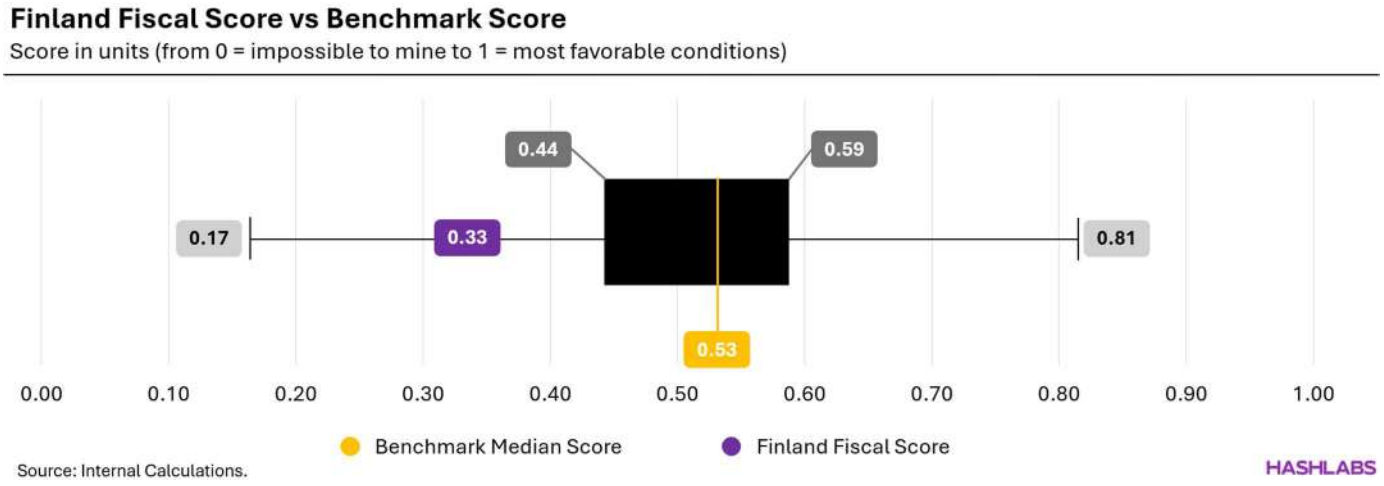


Historical political stability should rank Finland as higher country in the index legislative hierarchy. Though, stability is insufficient to afford a favorable legal environment, especially when concerns are raising[68] regarding data center power demand due to potential threats posed on long-term grid capacity and price stability. This unfavorable context finally materialized by the substantial increase of the data center electricity tax.

Expect recent tax increases, Finland stability has not led to particular laws related to the mining or data center industry that could have affected miners over the past years.

Fiscal Framework

Finland's fiscal framework ranks 17th out of 18 countries, with a score of 0.33 against the benchmark average of 0.52 and the median of 0.53.



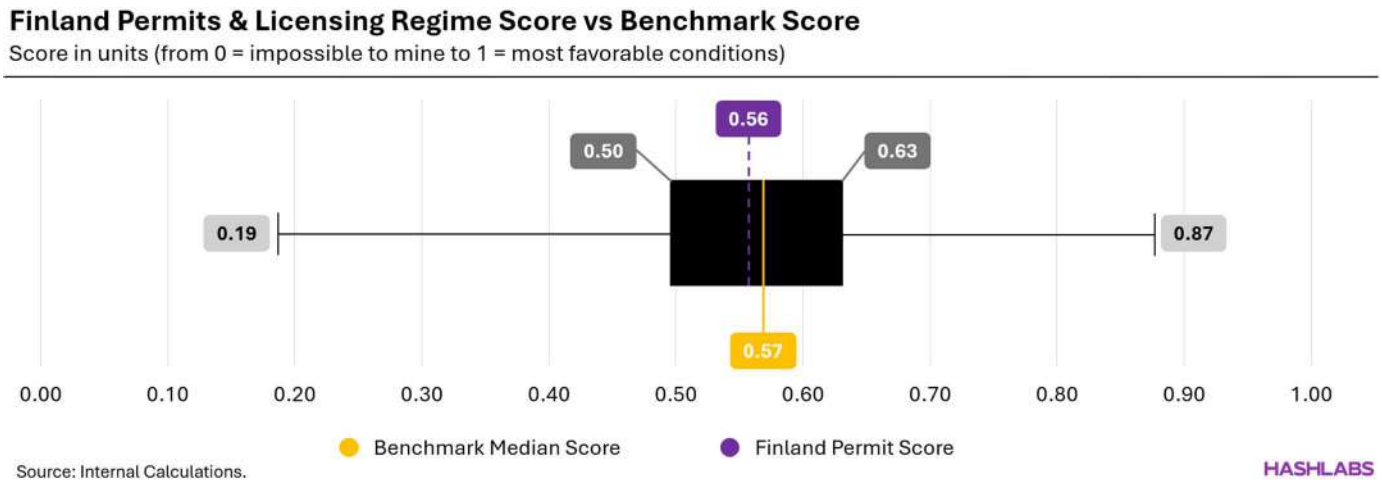
In October 2025 After the publication of a the AFRY study pointing out data center role in future electricity price uptick, the government moved data centres previous classification from tax category II to tax category I climbing the tax by €21.9/MWh threatening operations sustainability. Miners integrated into district reuse system are exempted from the tax hike.

Another fiscal issue for miners, is the fact that Finnish tax authorities are not considering mining a VAT-eligible industry, meaning they are claiming back the VAT occurred on previous equipment and machine imports, creating a severe burden for miners. Finland corporate tax income is 20.0%

Program Name	Description
VAT Rate Change – 2024	The standard **VAT rate rise**[69] **from 24.0% to 25.5%** in September 2024.
Government Bill HE 156/2025 vp	- **Electricity tax for data centers** move from category II to category I Category II tax rate: €0.5/MWh (~$0.4/MWh) Category I tax rate: €22.4/MWh (~$19.0/MWh) - **Miners reusing heat via district systems are exempted** from this reclassification
Government Potential Bill	Ongoing **discussions on a subsidy for high-value data center** capped at the electricity tax level (eligibility remains uncertain for miners).

Permits & Licensing Regime

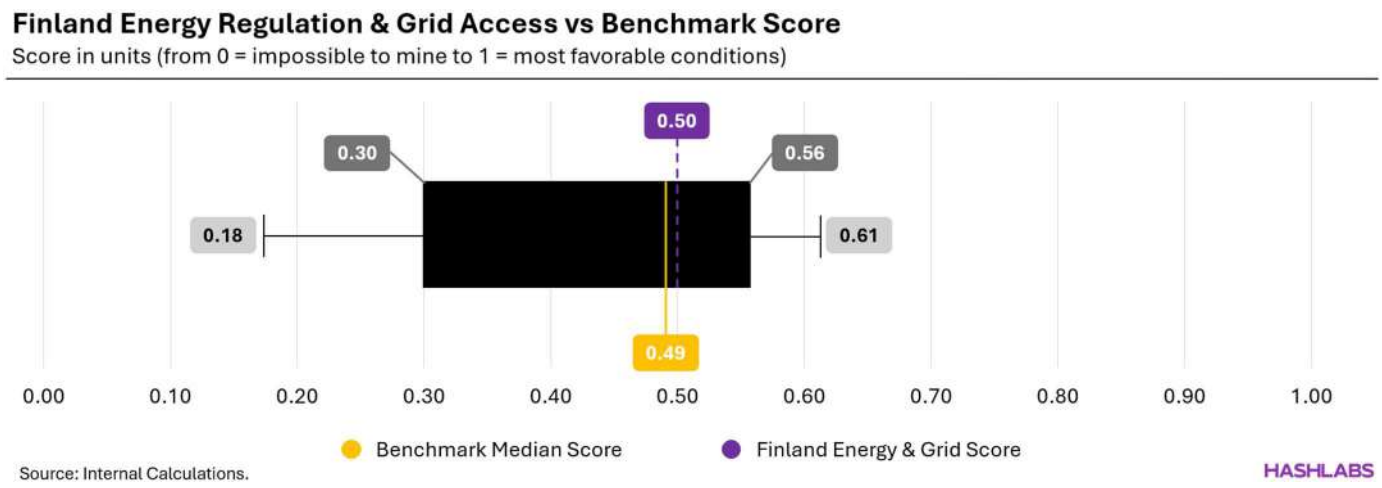
Finland's permit & licensing framework ranks 11th out of 18 countries, with a score of 0.56 against the benchmark average of 0.55 and the median of 0.57.



No license is required for operating a mining data center in Finland and construction permits can be secured at a modest time interval within 3 - 6 months. While securing permits[70] for large-scale infrastructure can be time consuming due to the administrative burden, the focus on small sites ranging from 1 to 5 MW actually solves this. The EIA procedure[71] is particularly strict on projects with adverse effects on the environment, or exhibiting a significant power capacity exceeding 300 MW. Similarly, an environmental permit is required if the data center back-up generator surpasses 50 MW. In parrallel, depending on locations emissions, noise and heat restrictions can be significant on operations whereas zooning regulation neutrally affect land availability.

Energy Regulation and Grid Access

Finland energy regulation and grid access rank 8th out of 18 countries, with a score of 0.50 against the benchmark average of 0.44 and the median of 0.49.



Despite Finland halted gas imports from Russia in 2022, the increase of nuclear[72] generation after the completion of 1.6 GW Olkiluoto Unit 3 reactor allows the country to produce energy surplus after navigating years of deficit, lowering barriers to entry for small loads (1 to 5 MW).

Grid connection lead time range from 12 to 18 months. The latter might become more common as AI data center are entering the European market increasing the demand queue.

In addition, demand response program and district heating synergies are additional sources of revenues that can provide diversification (but remain residuals), while hedging against political headwinds by providing resiliency to the heating system. Besides, plans for additional wind and solar generation might reinforce the central role of miners for grid balancing purposes, while exposing the market to more frequent negative pricing.

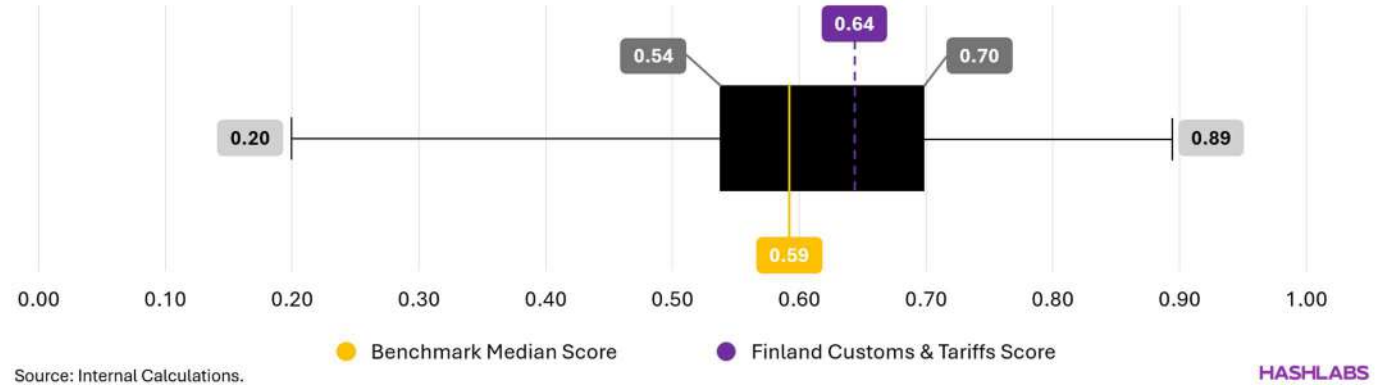
Excluding the tax rate, miners power cost is slightly higher than the industry median ($47.5/MWh - $55.0/MWh).

Customs Procedure & Tariffs

Finland tariffs and customs framework rank 7th out of 18 countries, with a score of 0.64 against the benchmark average of 0.60 and the median of 0.59.

Finland Customs Procedure & Tariffs Score vs Benchmark Score

Score in units (from 0 = impossible to mine to 1 = most favorable conditions)



Source: Internal Calculations.

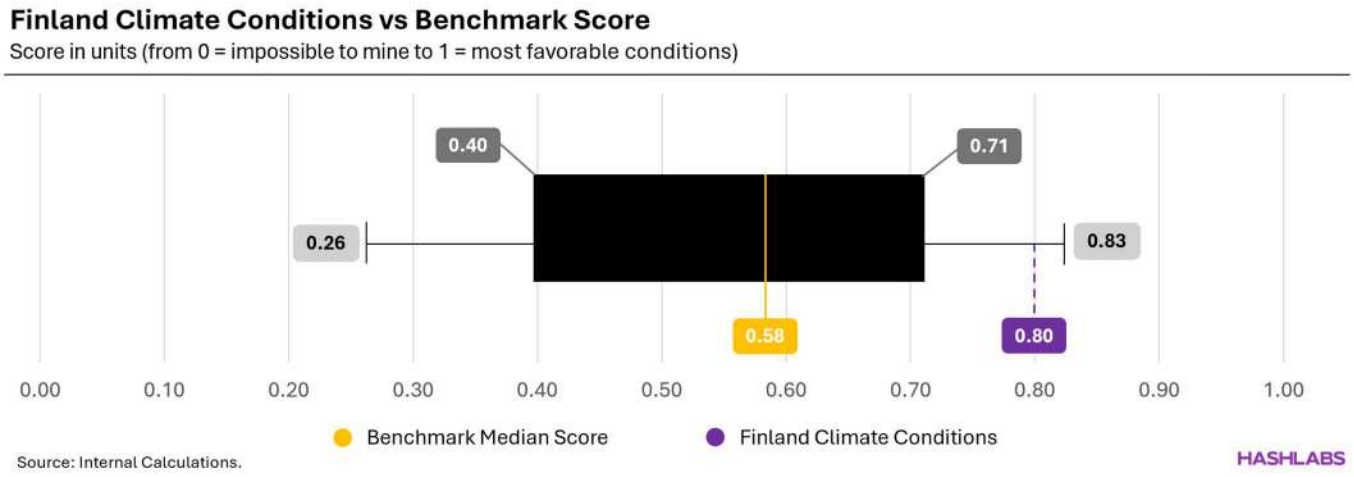
HASHLABS

As explained previously ASIC imports are subject to 25.5% of VAT – up from 24.0% since September 2024 - and the industry is facing the detrimental resolution of tax authorities to disregard mining as a VAT-eligible industry. The latter creates liabilities on initially refunded VAT of previous imports. Hosting in such is an option to circumvent this, as VAT is transferred to hosting customers. Moreover, the ability to shift the profit center despite administrative burdens is another effective mitigation mechanism for miners.

As an EU member, Finland applies[73] the EU Common Customs Tariff: for most computer-hardware-type HS codes used for ASIC miners (e.g., under 8471), the customs duty is 0.0%. No particular constraint exists in the ASIC import process, and electrical infrastructure process is deemed favorable.

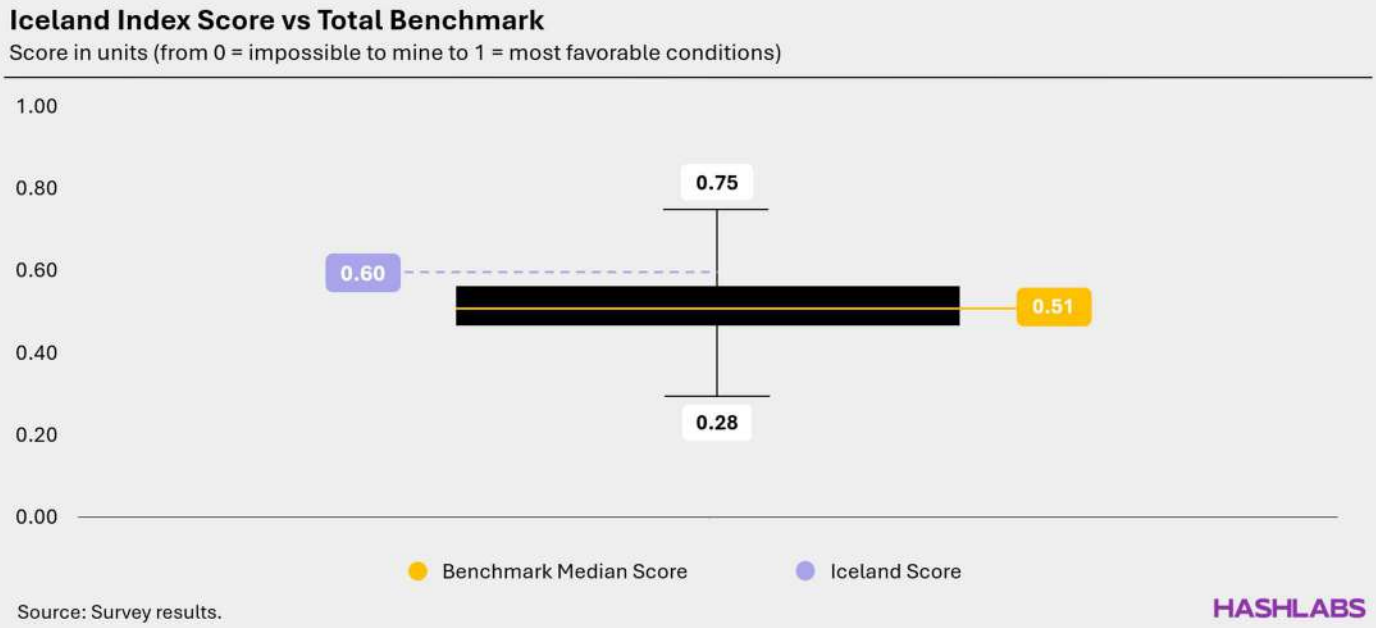
Climate Operating Conditions

Finland's climate operating conditions rank 2nd out of 18 countries, with a score of 0.80 against the benchmark average of 0.57 and the median of 0.58.



In the Nordics, despite high humidity levels (87.0% in Finland), the region offers highly favorable conditions for mining, particularly for hydro-cooled miners, with winter temperatures ranging from -16°C to 5°C in Finland. Diurnal temperature variation remains modest year-round, averaging 20.6°C, supporting stable operational conditions for mining infrastructure.

Iceland



Iceland scores 0.60, reflecting a favorable environment for mining. The fiscal framework is supportive, with VAT exemptions on hardware purchases, while the regulatory framework for data centers remains broadly neutral. Although the national power company has suspended new mining permit requests, private power providers remain accessible. Zoning regulations vary significantly by site, ranging from minimal to stringent requirements. The primary risk for miners stems from potential competition with AI data centers, which may outbid mining operations for available power. Overall climate conditions are highly favorable.

TLDR Legal Framework

- Current legal environment is favorable for miners.
- Future regulatory framework expected to remain favorable.
- Upcoming legislature on cryptocurrencies expected, unknown impact on mining.
- Potential changes on power availability and tariffs due to competitive HPC loads.

TLDR Fiscal Framework

- Slightly favorable tax regime with ability to shift the profit center abroad.
- There is no electricity tax.
- No subsidies or fiscal incentives available for miners or data centers.
- Neutral level of constraints to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- No operating license required.
- Construction permits are secured in 6 months on average.
- Environmental and water permitting requirements are neutrally burdensome for new data center construction.

- Emissions, heat and noise compliance level can be significant or completely unsignificant on operations depending on site location.
- Zoning restrictions have a moderate impact on land availability for data center development.

TLDR Energy Regulation & Grid Access

- Moderate barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times average 12 months but can exceed 24 months.
- Electricity costs are slightly higher than the median ($47.5 – $55.0/MWh).
- Miners grid status is neutral compared to other participants.
- Miners pays a tariff of $10.0MWh for transport when annual consumption exceeds 80 GWh.
- Expectation of higher transmission costs from the transmission system operator due to HPC loads.
- Access to heat reuse and demand response to get better electricity pricing or additional revenues.

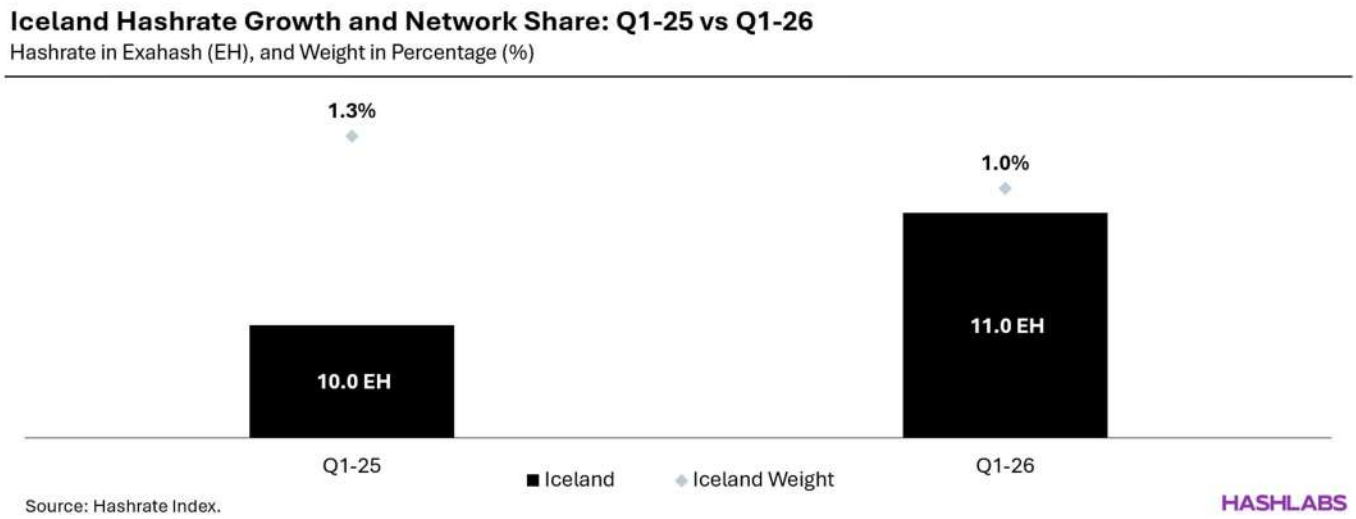
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 24.0% VAT and are refundable under a local structure.
- ASIC imports do not require a license and are not exposed to any tariff (excluding VAT).
- Import procedures are favorable for ASICs and electrical infrastructure.
- Electrical equipment lead times have affected mining energization timelines (1 - 5 months).
- Mitigation mechanisms are slightly effective on import constraints deliveries.

TLDR Climate Operating Conditions – South Iceland

- Highly favorable temperatures level in winter and summer.
- Low diurnal temperatures spread in both seasons (roughly 13°C).
- Unfavorable humidity level at 85.0%

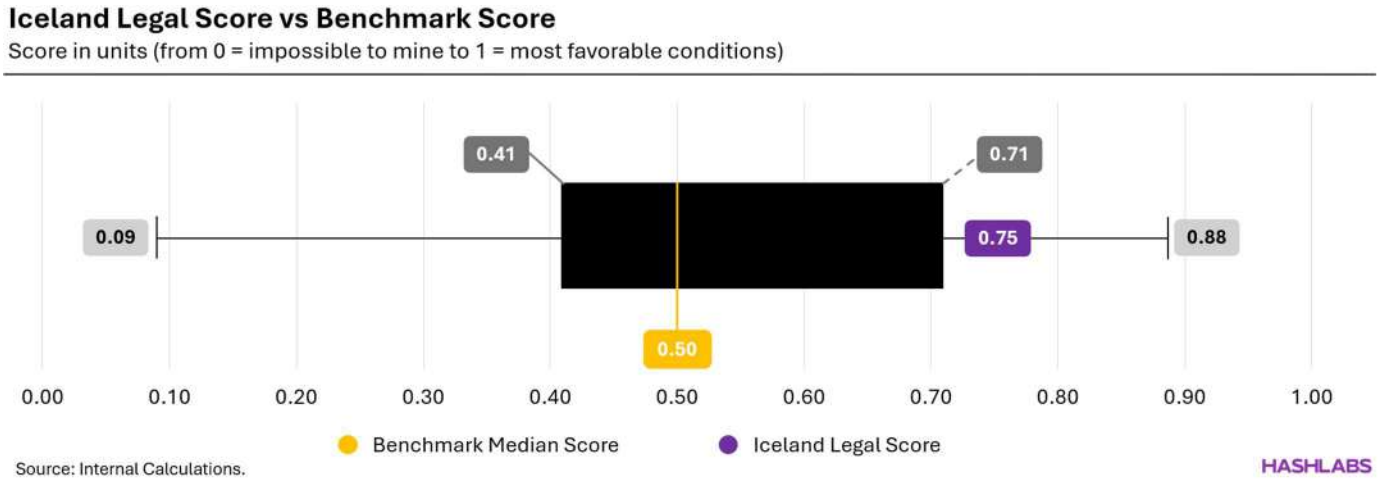
Iceland Footprint



Iceland hashrate modestly increased from 10.0 EH to 11.0 EH (YoY). This hashrate stagnation might be a combination of two factors, some miners might have lost their capacity to the detriment of HPC or AI data centers with the desire of the country to prioritize AI over mining, and the fact that overall Iceland pipeline is limited to the island power generation capacity. Future hashrate trend is likely to be driven by fleet upgrades and AI data center competition rather than site expansions.

Legal Framework

Iceland's legal framework ranks 3rd out of 18 countries, with a score of 0.75 against the benchmark average of 0.54 and the median of 0.50.



Renowned for its political stability, Iceland has historically offered a relatively secure operating environment for bitcoin miners, particularly compared to jurisdictions that have experienced bans, moratoriums, or abrupt tax increases. While Iceland has not enacted legislation explicitly to promote or restrict bitcoin mining, respondents broadly perceive the country as providing a favorable regulatory framework.

The main adverse event arose in 2021, when the state-owned utility Landsvirkjun faced temporary power deficit[74] and reduced electricity supply to certain large loads, including bitcoin miners. This episode led to

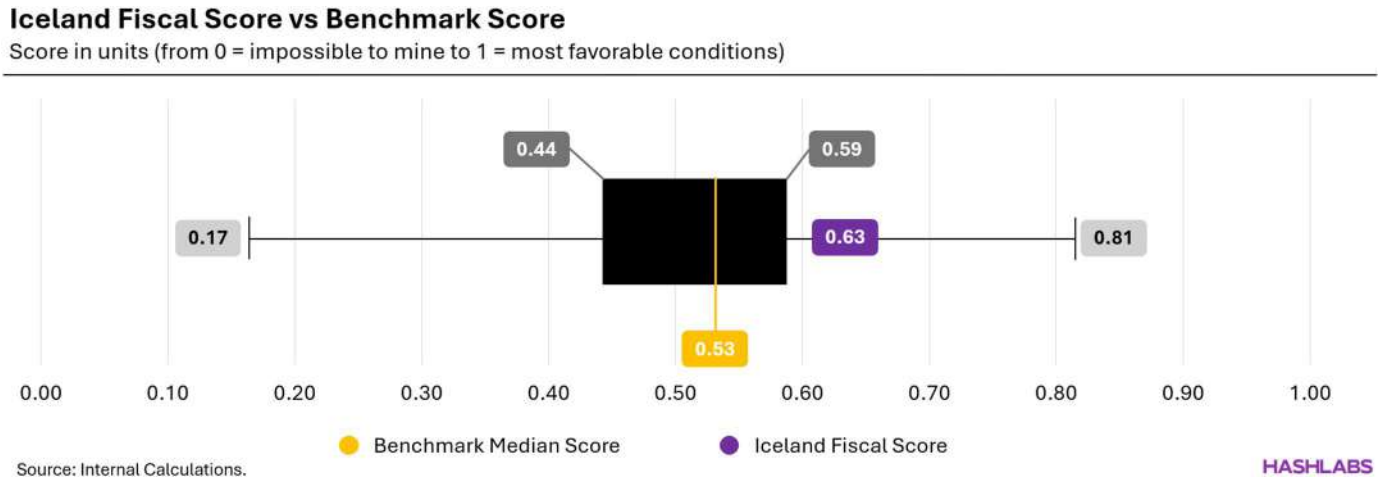
a suspension[75] of new electricity requests on mining operations from the national energy supplier but miners have still access to other providers (HS Orka and Orka Nátturunnar). Importantly, these disruptions came from hydro-reservoir anormal level, power plant malfunctions, and delays from external power suppliers.

Although Iceland's Prime Minister publicly expressed[76] a preference in 2024 for prioritizing electricity allocation to other industries over bitcoin mining, this stance has not translated into restrictive legislation or formal cap on mining activity. Going forwards, a common legislature for cryptocurrencies may be adopted, which could enhance regulatory clarity for digital assets. While the direct implications for mining remain uncertain, industry respondents generally expect neutral to moderately favorable outcomes. Nonetheless, Iceland's total available power capacity remains naturally constrained, suggesting that the overall operating environment is likely to remain stable rather than transformative in the near term.

Bill	Description
Mining Request Suspension	After the power deficit faced in 2021, the **national power company stopped new grid connection request from mining facilities**. Miners can still purchase power from HS Orka and Orka Nátturunnar.

Fiscal Framework

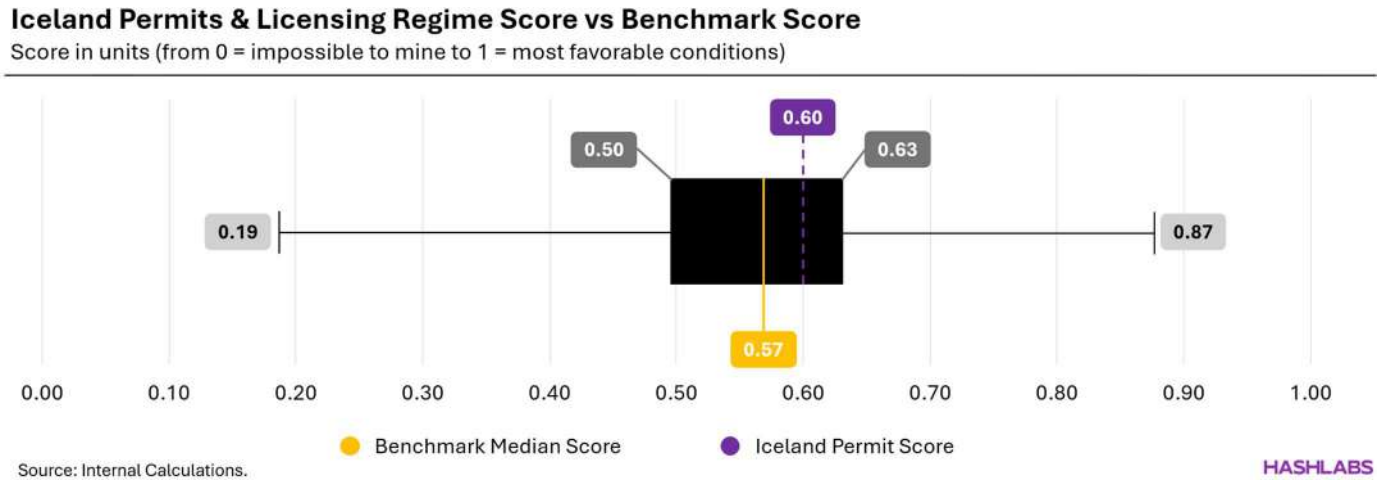
Iceland's fiscal framework ranks 4th out of 18 countries, with a score of 0.63 against the benchmark average of 0.52 and the median of 0.53.



Iceland taxation environment is slightly favorable according to respondents, with the ability to shift the profit center to another country and it's deemed neutrally difficult to avoid taxes. Importantly, mining is an eligible VAT industry for local miners, a windfall when having a local structure. There is no electricity tax and corporate income tax rate is at 21.0%.

Permits & Licensing Regime

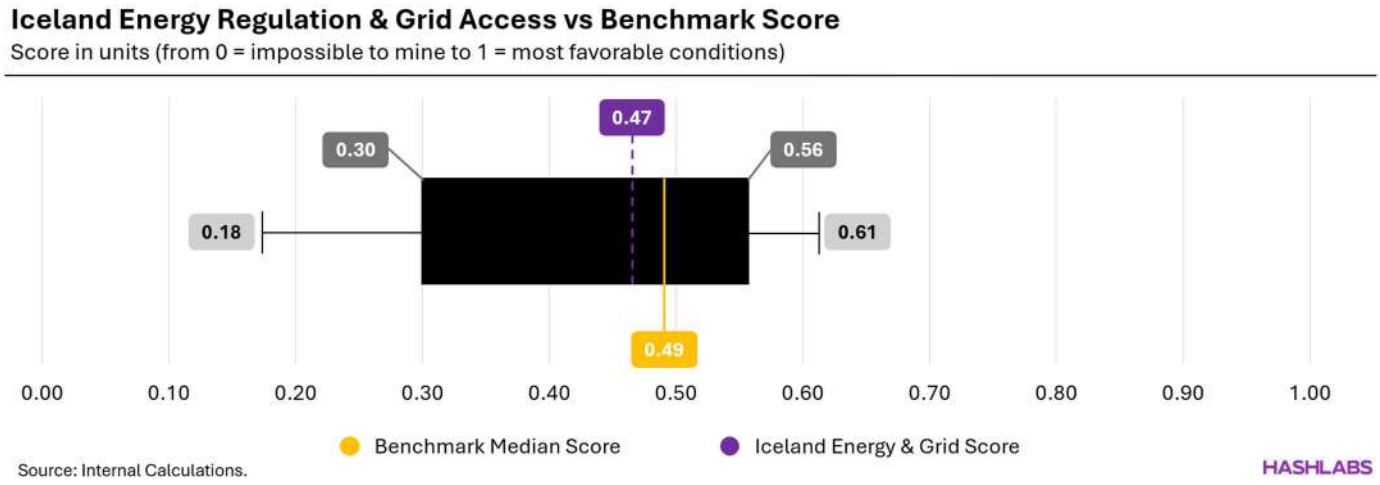
Iceland's permit & licensing framework ranks 7th out of 18 countries, with a score of 0.60 against the benchmark average of 0.55 and the median of 0.57.



In line with Iceland's political stability and its favorable climate for the data center industry, the country does not require a specific license to operate. Environmental impact assessment requirements are largely neutral, while zoning restrictions have a moderate impact on land availability for data center buildout. Emissions, noise, and heat management impose significant constraints on operations near population centers, but are inexistant in remote areas.

Energy Regulation and Grid Access

Iceland energy regulation and grid access rank 11th out of 18 countries, with a score of 0.47 against the benchmark average of 0.44 and the median of 0.49.



Iceland electricity mix[77] profile is fully renewable composed of 68.2% hydropower and 31.8% geothermal energy. The cold-climate associated with a modern grid as well as a stranded and cheap energy gives a strong edge to mine. However, the overall power capacity remains capped by the current electricity production.

Large users of more than 10 MW can connect[78] directly to the transmission system or make direct PPAs with generators and can thereby secure cheap electricity, and grid connection lead time is short with 12

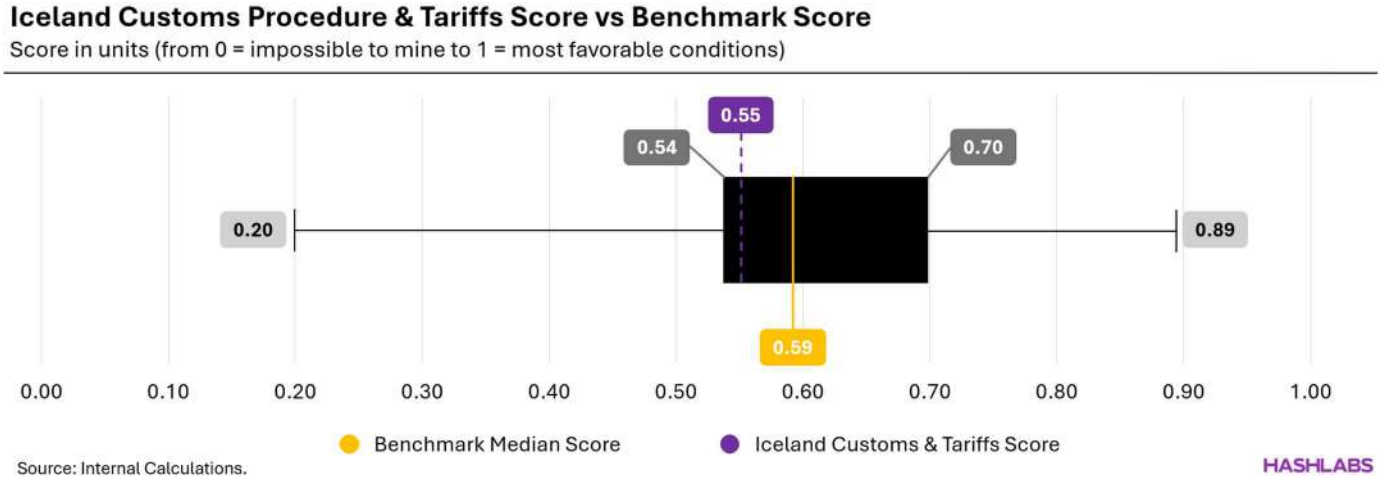
months on average but can exceed 24 months in other cases. Bitcoin miners benefit from decent power rates marginally higher than the industry median ($47.5 - $55.0/MWh) but are exposed to transmission cost of $10.0/MWh when annual consumption exceeds 80.0 GWh (equivalent to 9.1MW of power capacity assuming 100% uptime).

Since 2021 Landsvirkjun national power company ceased new electricity requests from miners. Nevertheless the electricity market remains accessible through private operators: HS Orka and Orka Nátturunnar.

With AI insatiable demand for power, miners could face a rising competition, especially as certain power companies did not renew[79] their delivery contracts in 2024 with mining companies targeting AI. By contrast, miners retain a comparatively more strategic role than traditional data centers in Iceland's energy system. Their ability to participate in demand response programs and integrate heat-reuse solutions provides grid flexibility and ancillary benefits, which can translate into better power terms and additional revenue streams.

Customs Procedure & Tariffs

Iceland tariffs and customs framework rank 12th out of 18 countries, with a score of 0.55 against the benchmark average of 0.60 and the median of 0.59.

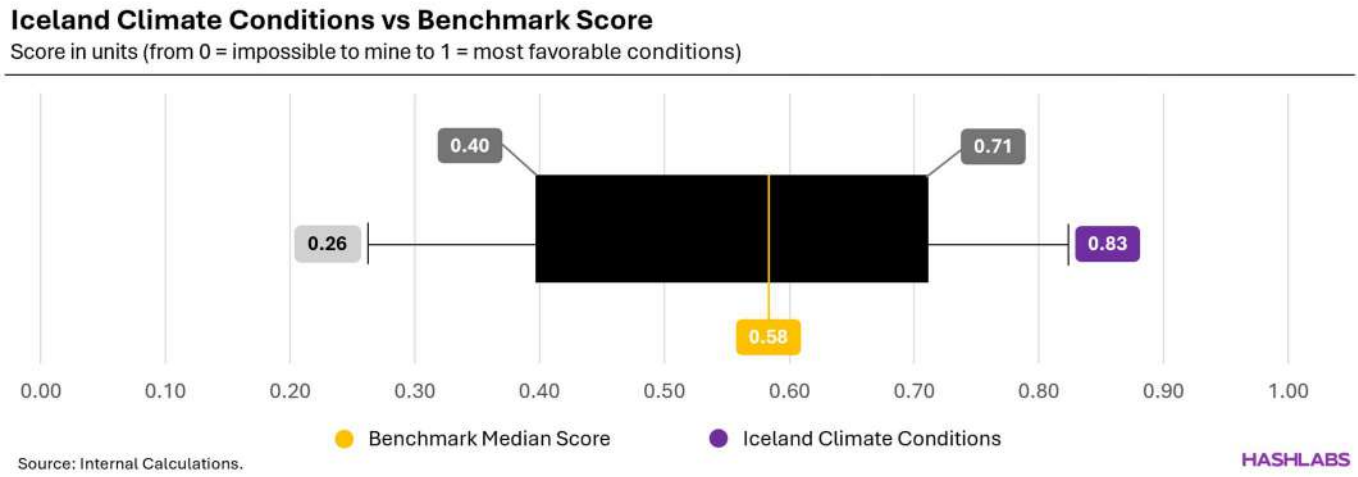


Although 24.0% VAT rate is elevated, contrary to Nordic peers Sweden and Finland mining is an eligible VAT-industry where VAT is refundable. ASIC and electrical equipments import process are deemed favorable.

As a member of the European Economic Area (EEA), Iceland applies the EU Common Customs Tariff: for most computer-hardware-type HS codes used for ASIC miners (e.g., under 8471), the customs duty is 0%. Comparable to any country electrical equipment delivery time has moderately affected energization timelines (1 – 5 months).

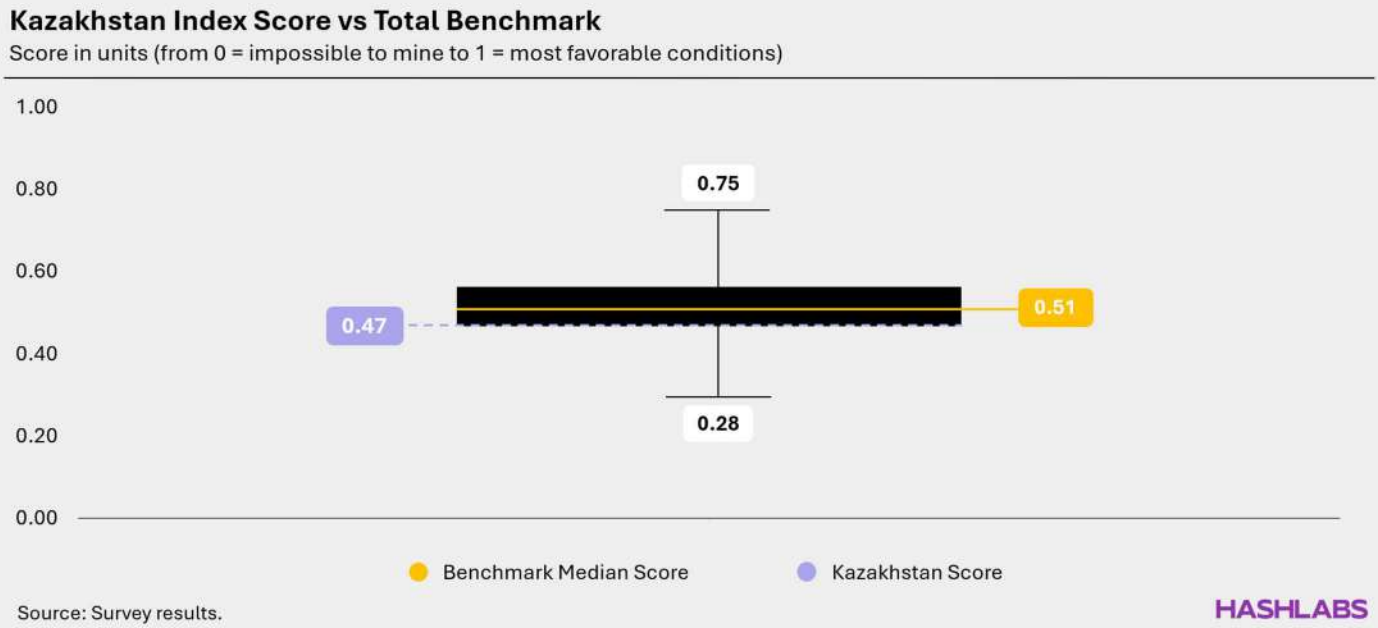
Climate Operating Conditions

Iceland's climate operating conditions rank 1st out of 18 countries, with a score of 0.83 against the benchmark average of 0.57 and the median of 0.58.



In the Nordics, despite high humidity levels (85.0% in Iceland), the region offers highly favorable climate conditions for mining, particularly for hydro-cooled miners, with winter temperatures ranging from -8°C to 8°C. Iceland's diurnal temperature variation, the lowest among benchmarked regions, averaging 13°C, provides stable and highly favorable conditions for efficient machine cooling.

Kazakhstan



Kazakhstan scores 0.47, reflecting a neutral environment in a country transitioning from an anti- to a more favorable mining regulatory framework. Following the crackdown on illegal operations to curb energy theft, industry sentiment has improved, exemplified by the proposed 70/30 initiative aimed at incentivizing mining development. Nevertheless, constraints exist with prolonged grid connection lead times (15 months on average), and important on-grid electricity costs ($55.0/MWh to $65.0/MWh). Climate conditions are slightly unfavorable miners must contend with pronounced diurnal temperature variation and hot summers in the eastern regions.

TLDR Legal Framework

- Current legal environment is slightly favorable for miners.
- Future regulatory framework is expected to become more favorable.

TLDR Fiscal Framework

- Favorable tax regime and ability to shift the profit center abroad.
- No subsidies or fiscal incentives available for miners or data centers.
- The sector electricity tax is residual at 0.02 KZT per MWh ($4.0/MWh), 0.01 KZT off-grid ($2.0/MWh).
- Moderate level of constraints to avoid or mitigate taxes.
- Upcoming laws are expected to support industry development.

TLDR Permits & Licensing Regime

- An operating license is required and can be delivered in 3 – 5 business weeks.
- Construction permits are secured in 2 - 6 months.
- Environmental and water permitting requirements are not burdensome for data center construction.

- Emissions, heat and noise compliance level is neutral for mining operations.
- Zoning restrictions have neutral impact on land availability for data center development.

TLDR Energy Regulation & Grid Access

- High barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times exceed 24 months.
- Electricity costs exceed the industry median ($55.0/MWh to $65.0/MWh) for on-grid miners, off-grid installations benefit from reduced rates.
- Miners grid status is favorable compared to other participants.

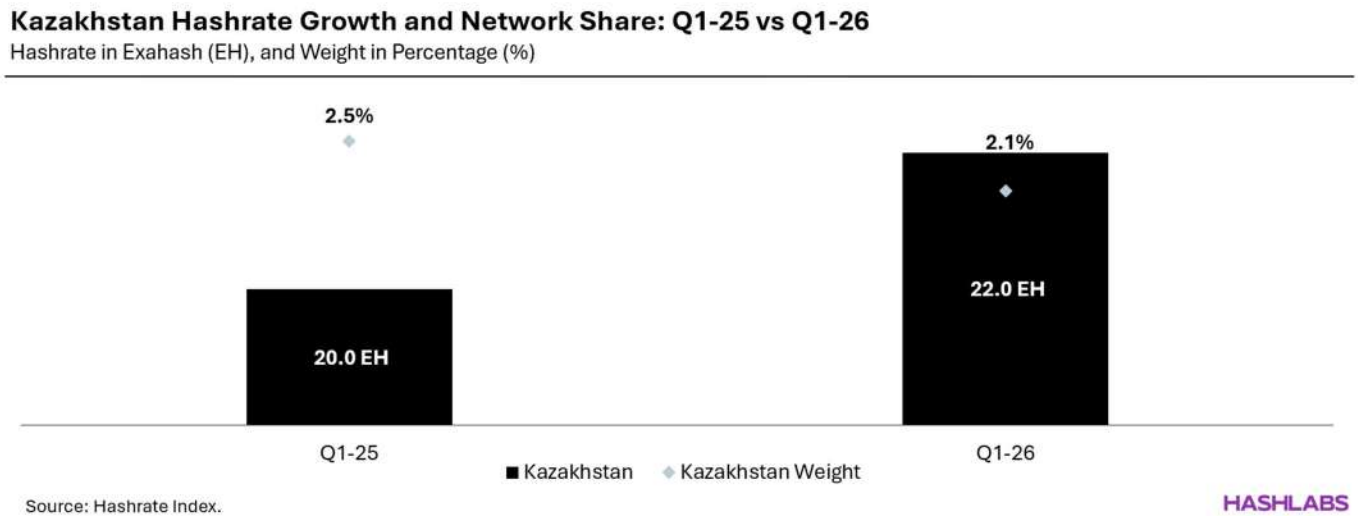
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 16.0% VAT.
- ASIC imports require a license and are not exposed to any tariff (excluding VAT).
- Import procedures are neutral for ASICs and favorable for electrical infrastructure.
- Electrical equipment lead times slightly affected mining energization timelines (1 - 3 months).
- Administrative mitigation efforts are marginally effective to accelerate deliveries.
- Ongoing governmental discussions on VAT exclusions on imports and refunds for electricity.

TLDR Climate Operating Conditions - Pavlodar

- Slightly favorable temperatures level in winter with significant negative spikes (-29°C) and unfavorable in summer (>30°C).
- Significant diurnal temperatures spread in winter (-29°C to 1°C).
- Highly favorable humidity level at 66.0%

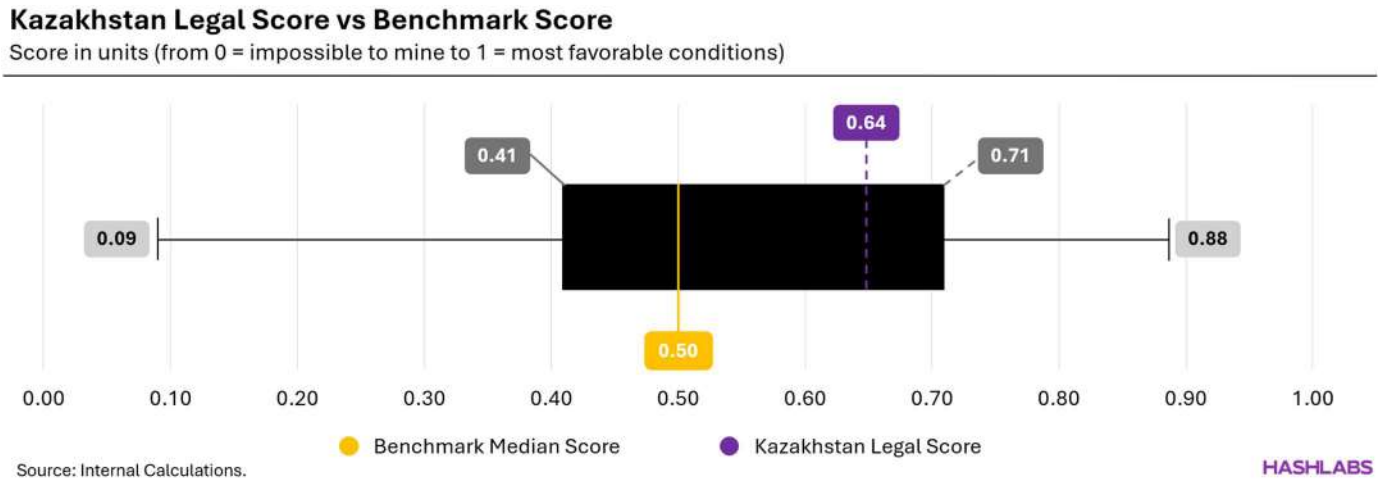
Kazakhstan Footprint



Kazakhstan tumultuous regulatory environment is easing after years of restrictions. This is one reason why the country hashrate stagnated gaining only 2 EH from Q1-2025 to Q1-2026, ultimately reducing its share of the network from 2.5% to 2.1%. The government recent shift toward Bitcoin and a clearer framework for mining could fuel a hashrate resurgence in the country in the year to come.

Legal Framework

Kazakhstan's legal framework ranks 7th out of 18 countries, with a score of 0.64 against the benchmark average of 0.54 and the median of 0.50.



Kazakhstan slightly favorable regulatory environment has not come without challenges, as Kazak miners have historically navigated through ups and downs. In 2017 driven by the elevated bitcoin price, mining springing up in the region leveraging cheap power via capped power price[80] (from $20.0 to $30.0/MWh) and tax breaks. In 2019 it prompted[81] authorities to introduce early regulatory frameworks by officially legalizing mining.

This momentum intensified after China's May 2021 mining ban, as Kazakhstan became the new hotspot for displaced miners. However, in January 2022, a nationwide power crisis[82] due to grid shortages causing

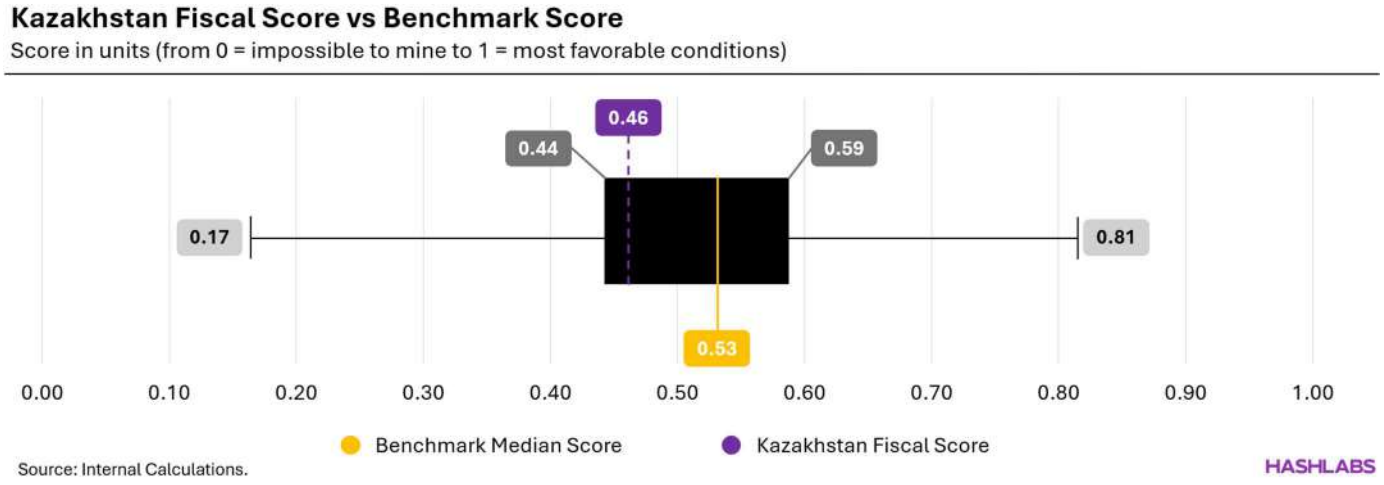
rolling blackouts led to a swift government crackdown on "gray" illegal miners, triggering a rapid exodus of hashrate and a shift toward an hostile regulatory regime.

Since 2023, tensions have gradually eased and regulation has continued to evolve with continuous vigilance[83] of government agencies over unlicensed mining sites. A major inflection point came in 2025, with amendments to digitalization and AI laws signaling a move toward institutionalization, alongside the launch of a national digital asset reserve[84] targeting $1 billion.

Bill	Description
2023 - Law No. 193-VII on Digital Assets[85]	- Establish a **mandatory registration to obtain a license** for mining - Miners can only purchase electricity through the national power auction system. - KEGOC grid operator set a quota on mining auction system depending on timely electricity surplus
2025 - Amendments on artificial intelligence and digitalization law[86]	Reform **eliminating the requirement for miners to sell 75.0% of their produced assets** through AIFC-based exchanges, giving them more economic flexibility.
2025 - 70/30 Energy initiative	Proposed regulatory framework to address chronic power shortages and modernizing the national grid. Foreign investors fund thermal power upgrades, with **70.0% of the generated capacity going to the national grid and 30.0% allocated to miners** and support stranded gas use to power mining data centers

Fiscal Framework

Kazakhstan's fiscal framework ranks 12th out of 18 countries, with a score of 0.46 against the benchmark average of 0.52 and the median of 0.53.



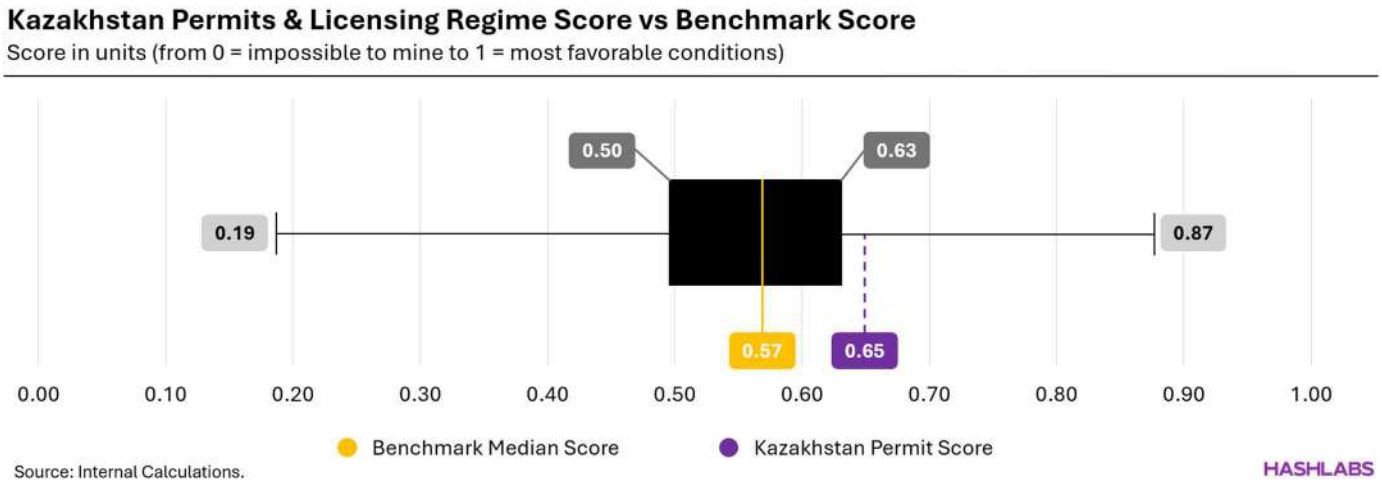
As discussed in the legal section, Kazakhstan's fiscal framework for mining has stabilized after a period of significant disruption. Following grid failures in 2021, authorities cut off illegal operations, propelling the rapid introduction of a regulatory regime. This included the implementation of an electricity tax in 2022, subsequently revised in 2023, alongside the removal of earlier tax exemptions and subsidies historically available to miners. Importantly during 2023 electricity tax revision, proposals for a punitive, variable electricity levy reaching up to 25 KZT per kWh (~$49.0/MWh) were ultimately abandoned in favor of a fixed-rate mining tax set at 2 KZT per kWh. For the electricity tax there is a mandatory quarterly declaration to be made no later than the 15th day of the second month following the reporting quarter.

Miners are subject to a corporate tax income at 20.0% in addition to a digital mining fee (electricity tax) and the VAT recently rose from 12.0% to 16.0% affecting ASICs and electrical equipments investments.

Program Name	Description
2021 - Tax Code Amendment[87]	Introduction of an **electricity tax for miners** 1 KZT per kilowatt hour **(~$2.0/MWh**) by Jan-2022
2023 - Tax Code Amendment	- Reevalution of the **electricity tax rate with a floor at 25 KZT per kilowatt hour** (~$55.0/MWh) and a minimum fee at 1 KZT per kWh (~$2.0/MWh) abandoned. - Electricity tax **fix rate at 2 KZT per kWh** (~$4.0/MWh) **and only 1 KZT per kWh for off-grid renewables** (~$2.0/MWh).[88]
2025 - Tax Code Amendment	**VAT will rise from 12.0% to 16.0%** starting from 1st January 2026.
2025 - Amendments on artificial intelligence and digitalization law	Reform **eliminating the requirement for miners to sell 75.0% of their produced assets** through AIFC-based exchanges, giving them more economic flexibility.

Permits & Licensing Regime

Kazakhstan's permit & licensing framework ranks 3rd out of 18 countries, with a score of 0.65 against the benchmark average of 0.55 and the median of 0.57.

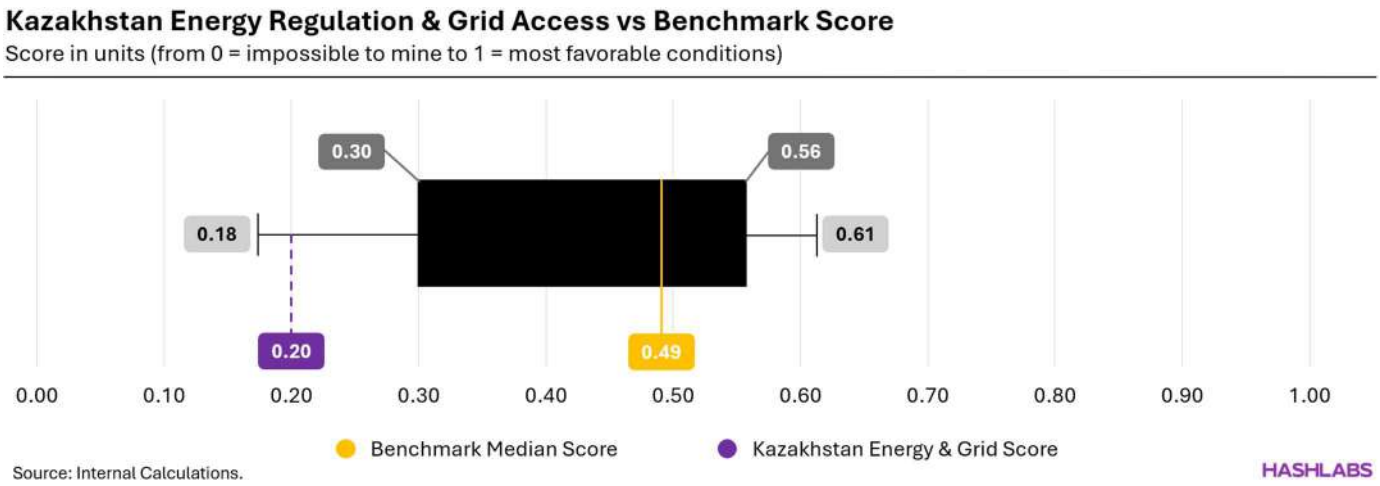


The Ministry of Digital Development, Innovations, and Aerospace Industry is the federal agency responsible for the licensing of digital assets mining activities, which is mandatory to operate in the country. According to KPMG and the Kazakhstan State Tax Committee the number of miners plummeted in 2023 after seizures and coercion against illegal mines and gradually recovered since then with 75 active companies registered[89] as of March 2025 but remains far from 2022 level with 330 companies (many of them were not licensed).

Environmental-related restrictions are very low for operations in a country primarily tapping into coal and natural gas[90] (respectively 58.4% and 28.5% of the electricity mix) to generate electricity. Zoning restrictions have neutral impact on land availability and construction permits can be secured within 4 months on average. Similar to emissions, heat and noise thresholds with neutral impact on data center operations.

Energy Regulation and Grid Access

Kazakhstan energy regulation and grid access rank 17th out of 18 countries, with a score of 0.20 against the benchmark average of 0.44 and the median of 0.49.

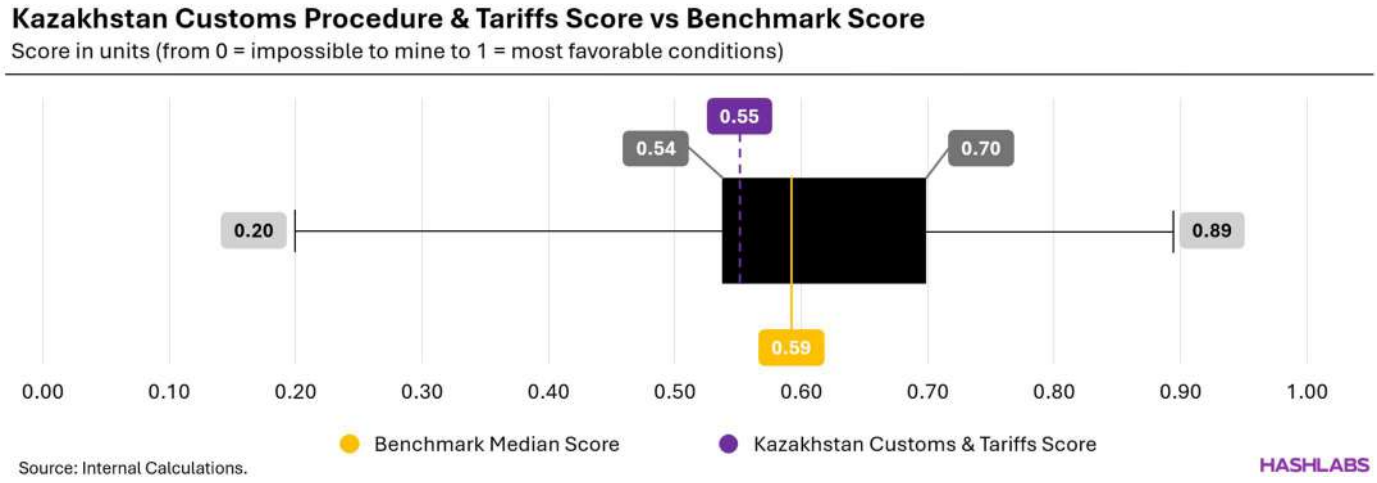


Overall, Kazakhstan's electricity market regulation remains broadly favorable for Bitcoin miners. Policy discussions surrounding the proposed 70/30 Energy Initiative suggest a strategic positioning of miners within the country's future grid architecture, alongside emerging opportunities to monetize stranded gas at oil and natural gas fields. Grid interconnection lead times remain are substantial (> 24 months) and barriers to market entry are high. That said, Kazakhstan's attractiveness is also tempered by comparatively elevated on-grid power costs ($55.0/MWh to $65.0/MWh). This assessment, does not fully capture the discounted rates available through off-grid deployments.

It's noteworthy that after the power crisis, the energy regulatory framework subsequently evolved through a series of measures directly affecting miners' access to electricity. Miners are now required to source electricity exclusively through the KOREM exchange, purchasing power at market prices and only during periods of system surplus. Capacity caps have been introduced, limiting the amount of electricity available to new mining facilities and constraining large-scale expansion. Large-scale miners are permitted to develop and operate their own power plants, enabling greater energy security and reducing reliance on the public grid.

Customs Procedure & Tariffs

Kazakhstan tariffs and customs framework rank 11th out of 18 countries, with a score of 0.55 against the benchmark average of 0.60 and the median of 0.59.

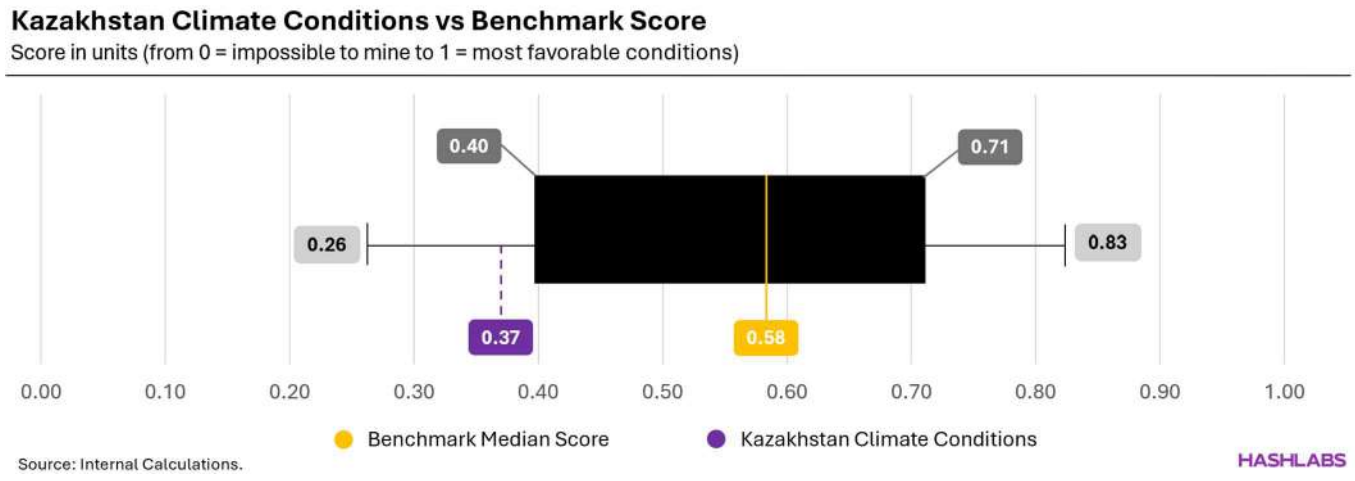


In Kazakhstan, mining operations are subject to a 16.0% VAT, up from 12.0% following amendments to the tax code[91]. ASIC imports are exempted from tariffs (excluding VAT), though an import license is required for mining equipment. Mitigation mechanisms to accelerate customs clearance are only marginally effective and primarily rely on third-party customs brokers.

For electrical infrastructure, the import process is favorable, with equipment lead times historically causing only minor delays to data center energization (1 - 3 months). By contrast, the ASIC import process remains more neutral. This framework may change materially, as the government is considering revisions that could exclude VAT on electricity and introduce refunds on ASIC procurement.

Climate Operating Conditions

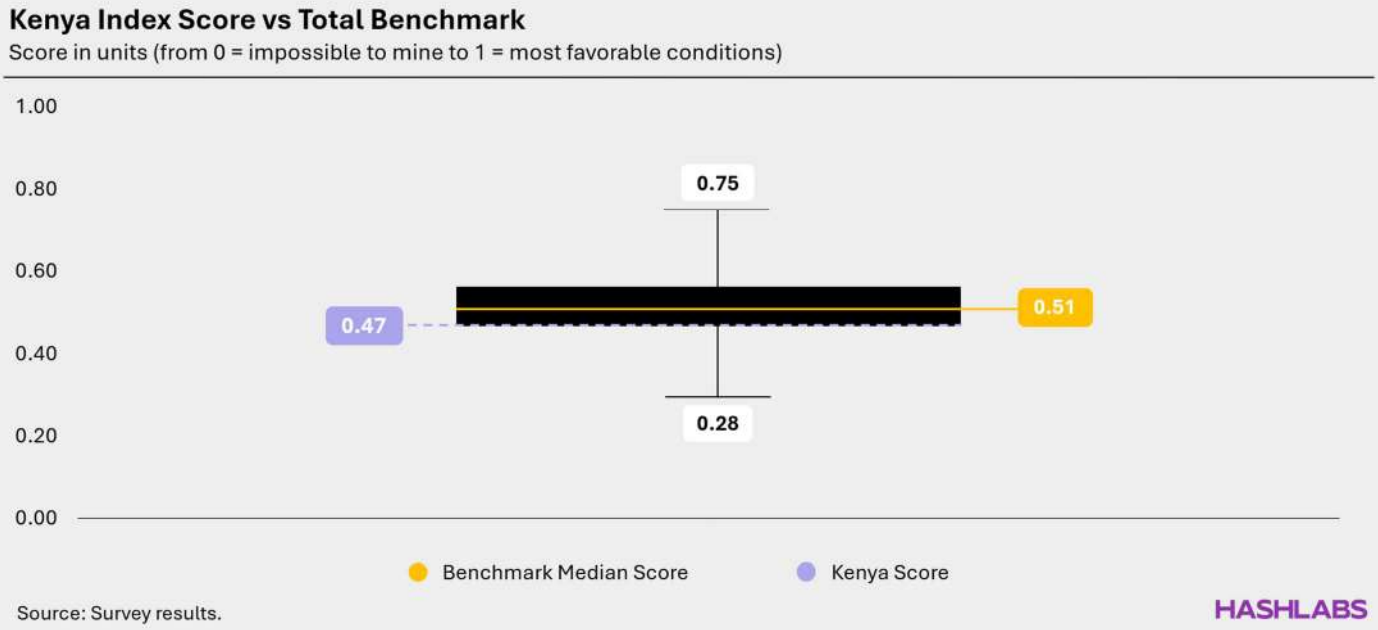
Kazakhstan's climate operating conditions rank 15th out of 18 countries, with a score of 0.37 against the benchmark average of 0.57 and the median of 0.58.



In Pavlodar, seasonal conditions are highly asymmetric, with extreme winter lows reaching -29°C and summer highs up to 34°C. Diurnal temperature variation remains significant in both seasons, with the largest day–night spread occurring in winter (from -29°C to 1°C). While cold temperatures are typically

advantageous for mining, such extremes require enhanced insulation to prevent adverse impacts on equipment. Likewise, peak summer temperatures warrant careful thermal design considerations when building and operating mining sites. Finally, the exposure to fine dust, salt, coal and flower dust are other factors to consider when designing your infrastructure.

Kenya



Kenya score (0.47) is primarily driven by an aging electrical infrastructure that poses a significant constraint for mining operations, allowing only very small-scale off-grid facilities. In parallel, opacity surrounding the regulatory and tax framework persists, despite the existence of special economic zones intended to incentivize business development. A burdensome customs process, combined with substantial import tariffs (30.0% including VAT), further underscores Kenya's unattractive operating environment for the sector. The lack of a permitting framework gives optionality in installing a site. Climate conditions are slightly favorable, supported by stable temperatures and low diurnal variation, notwithstanding the country's high altitude.

TLDR Legal Framework

- Current legal environment is neutral for miners but missing framework for mining or data centers.
- Future regulatory framework is expected to remain neutral.
- Anticipated tariff adjustment on fuel, water resource levy, but impact will remain low on miners.

TLDR Fiscal Framework

- Neutral tax regime and inability to shift the profit center abroad.
- Subsidies and fiscal incentives accessible in special economic zones (SEZs).
- There is no electricity tax.
- Neutral level of constraint to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- No operating license required.
- Construction permits are secured within 3 – 6 months.

- The environmental impact assessment and water-permit process when necessary are neutrally burdensome for new infrastructure build-out.
- Emissions, heat and noise compliance level is moderately significant for mining operations.
- Zoning restrictions are inexistant on land availability for data center development.

TLDR Energy Regulation & Grid Access

- Moderate barriers to entry for energy market participation.
- Miners are either off-grid or on mini-grids, no interconnection challenge here.
- Unreliable grid and weak infrastructure.
- Electricity costs are lower than the median (< $35.0/MWh).
- Underdeveloped electrical infrastructure limits the deployment of mid to large-scale data centers.

TLDR Customs Procedure & Tariffs

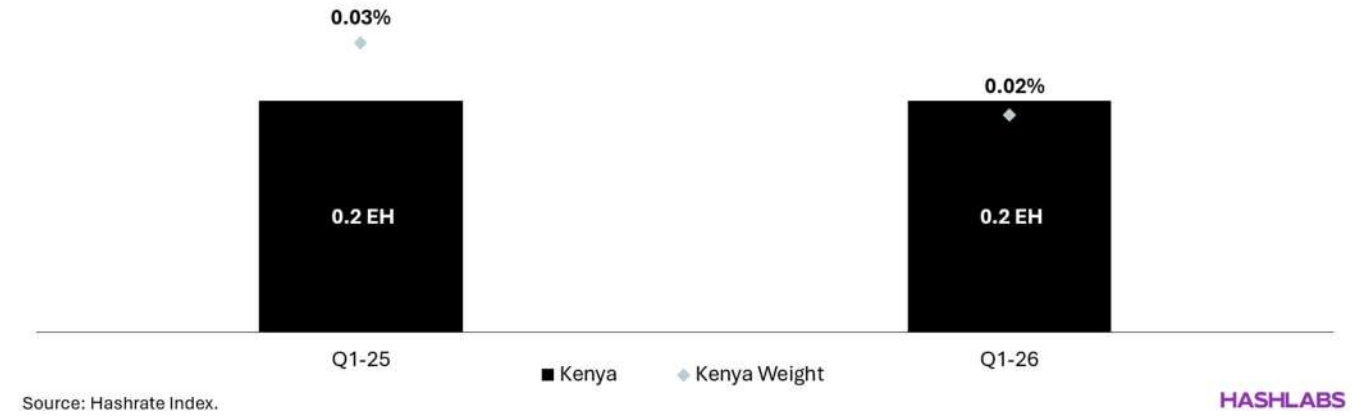
- ASIC imports are subject to 16.0% VAT and can be exempted.
- ASIC imports do not require a license and are subject to 14.0% import tariff (excluding VAT).
- Electrical equipment lead times have slightly affected mining energization timelines (2 - 3 months).
- Mitigation mechanisms on import constraints are effective to accelerate deliveries or tariffs cut.

TLDR Climate Operating Conditions – Central Highlands

- Highly favorable temperature level in winter and summer (13°C – 28°C).
- Low diurnal temperatures spread in both seasons (14.3°C).
- Highly favorable humidity level 61.0% but significant exposure to altitude (~1 900 meters) and dust exposure of hashboards.

Kenya Footprint

Kenya Hashrate Growth and Network Share: Q1-25 vs Q1-26
Hashrate in Exahash (EH), and Weight in Percentage (%)



Similar to Chile, Kenya hashrate remains at an embryonic stage with only 0.2 EH currently hashing in the country. The willingness of industrial-scale miner MARA to invest in the country finally fall short of actions. Amid an aging infrastructure and unfavorable tariffs exposure it's unlikely to see an emergence of any major mining operations in the near term.

Legal Framework

Kenya's legal framework ranks 12th out of 18 countries, with a score of 0.50 against the benchmark average of 0.54 and the median of 0.50

Kenya Legal Score vs Benchmark Score
Score in units (from 0 = impossible to mine to 1 = most favorable conditions)

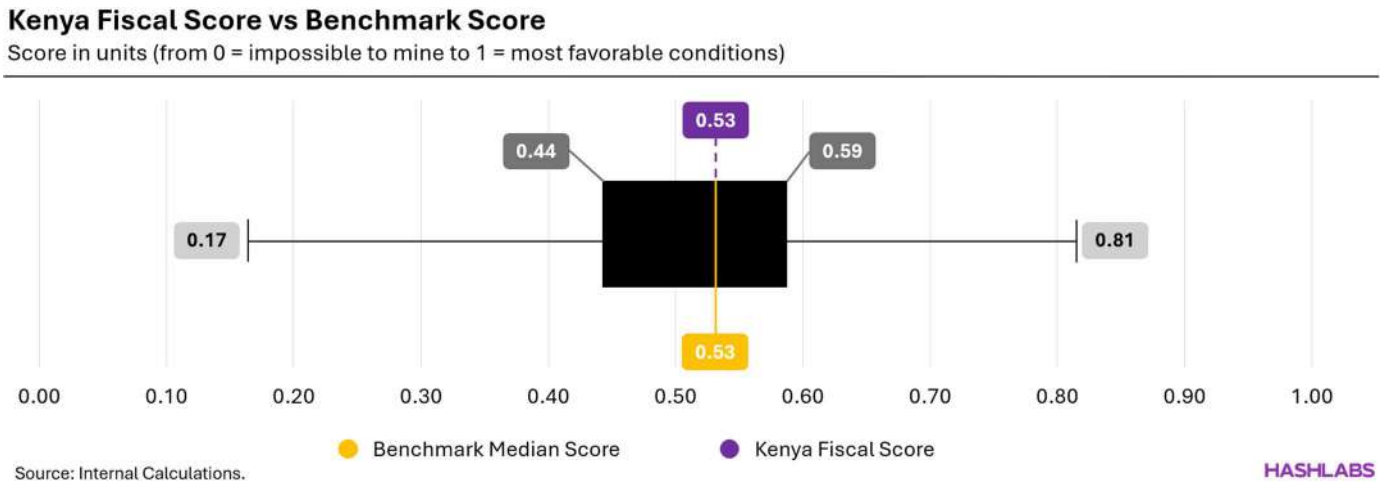
Kenya's legal environment for mining is broadly neutral and is expected to remain relatively stable in the coming years, notwithstanding potential tariff adjustments on water and fuel that could marginally affect mining economics.

The limited reliability and scale of the country's electrical infrastructure also helps to explain why there has been little targeted legislative development addressing mining or the broader data center industry. To date, most regulatory progress has focused on the digital asset ecosystem, notably through recent amendment[92] to the Kenyan Capital Markets Act establishing a clearer framework for exchanges and custody services.

While large-scale mining activity is inexistant, there have been notable signals of interest in recent years. In particular, KenGen - the state-owned power producer - has publicly invited[93] miners to utilize surplus renewable energy capacity. Additionally, in 2024 MARA announced a partnership with Kenya's Ministry of Energy and Petroleum (MOEP) to explore and potentially develop the country's renewable energy potential, with a contemplated investment of up to $80 million. However, there have been no substantive public updates on the implementation or progress of this initiative.

Fiscal Framework

Kenya's fiscal framework ranks 9th out of 18 countries, with a score of 0.53 against the benchmark average of 0.52 and the median of 0.53.

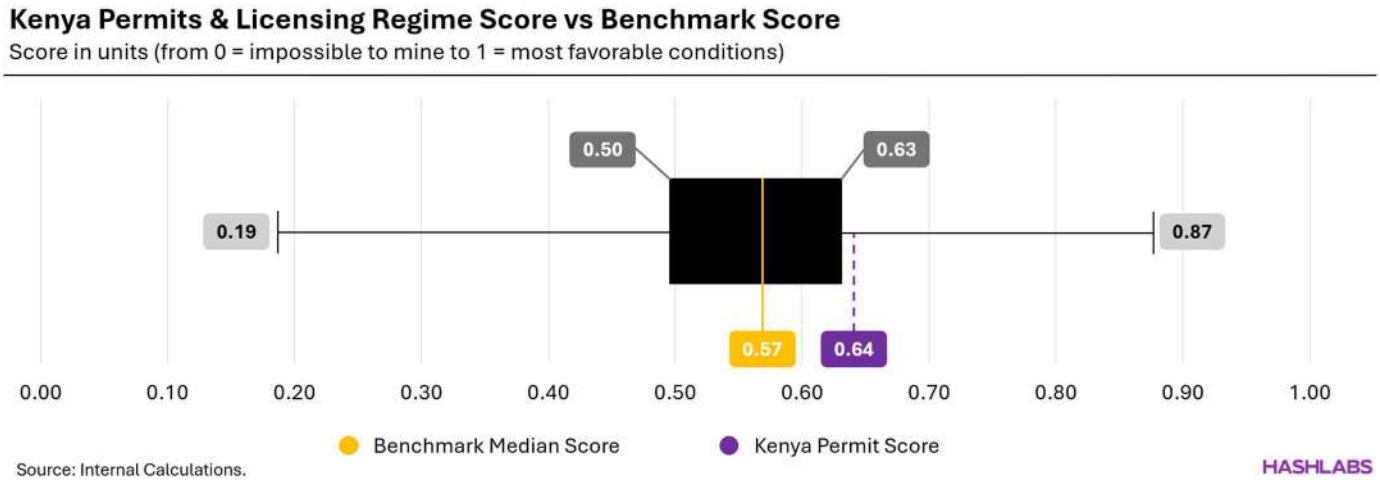


Under the 2025 Finance Act, large-scale investors reinvesting more than KES 3 billion (approximately $23M at Jan-26 exchange rates) may qualify for a reduced [94]corporate tax regime. Eligible firms benefit from a preferential rate of 15.0% for the first 10 years, followed by 20.0% for the subsequent decade. Key conditions include designating Kenya as the company's regional headquarters and ensuring that at least 70% of senior management positions are held by local personnel.

The corporate income tax rate in Kenya stands at 30.0%. Interestingly, companies operating within Special Economic Zones (SEZs - such as the KenGen Energy Park, which offers access to abundant geothermal power - can access more favorable terms[95], benefiting from a reduced rate of 10.0% for the first decade and 15.0% for the following 10 years.

Permits & Licensing Regime

Kenya's permit & licensing framework ranks 5th out of 18 countries, with a score of 0.64 against the benchmark average of 0.55 and the median of 0.57.

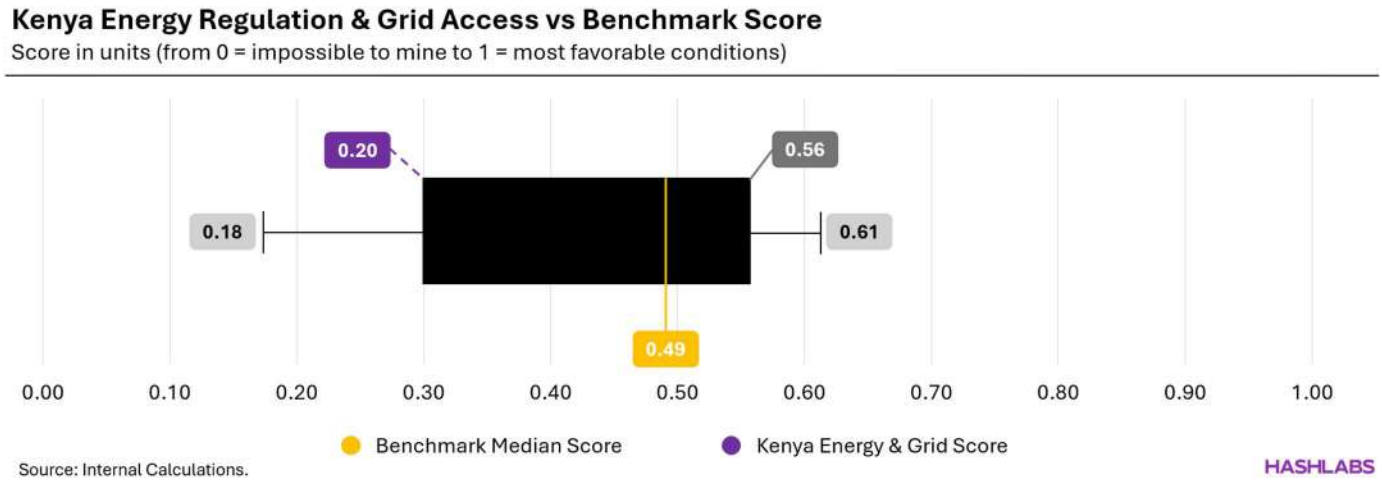


Kenya's permitting and licensing framework for bitcoin mining remains largely undeveloped, reflecting the limited presence of large-scale mining operations in the country to date.

Construction permitting timelines - 3 to 6 months - align with those observed in this benchmark, and there is no mining license requirement or mandatory registration regime in place. Zoning rules have no impact on land availability, providing flexibility for site selection. However, higher constraints exist on operations regarding heat, noise and emissions.

Energy Regulation and Grid Access

Kenya energy regulation and grid access rank 14th out of 18 countries, with a score of 0.30 against the benchmark average of 0.44 and the median of 0.49.



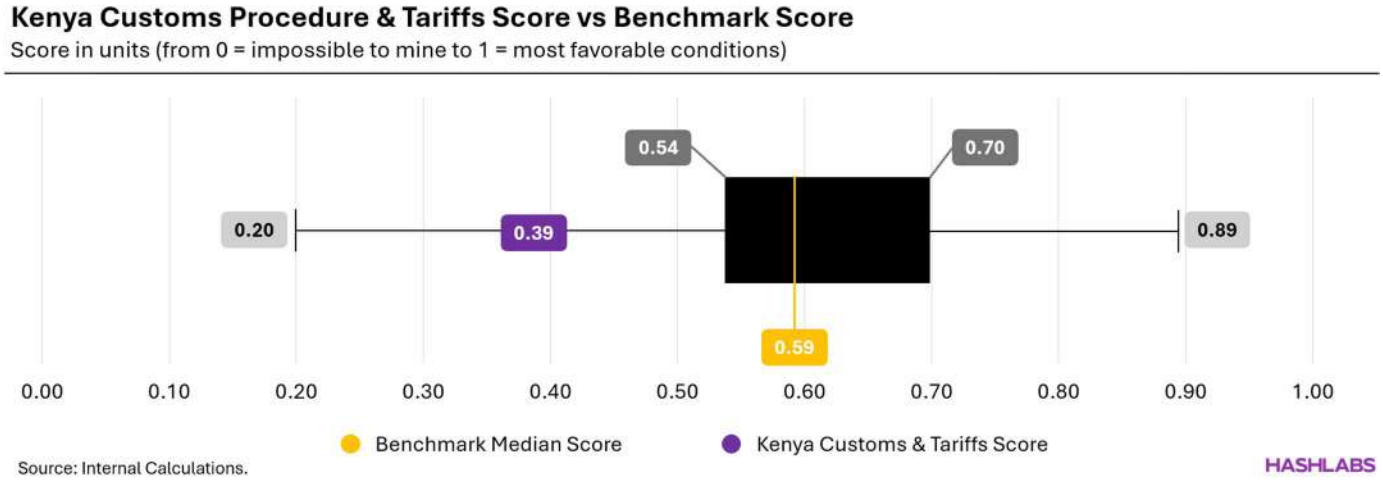
Kenya energy profile[96] is renewable at 91.2% with Geothermal and Hydropower dominating the mix respectively at 43.2% and 28.3% of the total power generation. Benefiting from substantial geothermal resources -particularly in the Olkaria Geothermal Hub - the state-owned Kenya Electricity Generating Company (KenGen) has publicly encouraged Bitcoin miners to develop infrastructure in the region.

In this context, Bitcoin mining could serve as a compelling case study for Kenya by creating additional demand that supports the expansion of generation capacity and ultimately contributes to lower electricity costs for the broader population. In essence, miners could play a role in modernizing the national grid by providing predictable, flexible demand that incentivizes new power projects while helping underwrite investments in a more resilient transmission network. In 2023 Kenya sought private investment to finance new high-voltage transmission lines, with estimates suggesting that $6 billion would be required to upgrade and expand the grid.

Nevertheless, Bitcoin mining sites in Kenya remains limited to minigrids or being off-grid but at highly attractive power rates (< $35.0/MWh). Grid reliability continues to be a structural challenge: average utility uptime across many African countries is approximately 45%[97], which helps explain the absence of specific legislation governing either cryptocurrency mining or data centers in Kenya. Beyond the broader jurisdictional and regulatory risks often associated with emerging markets, the relative underdevelopment of the electricity system remains a critical barrier.

Customs Procedure & Tariffs

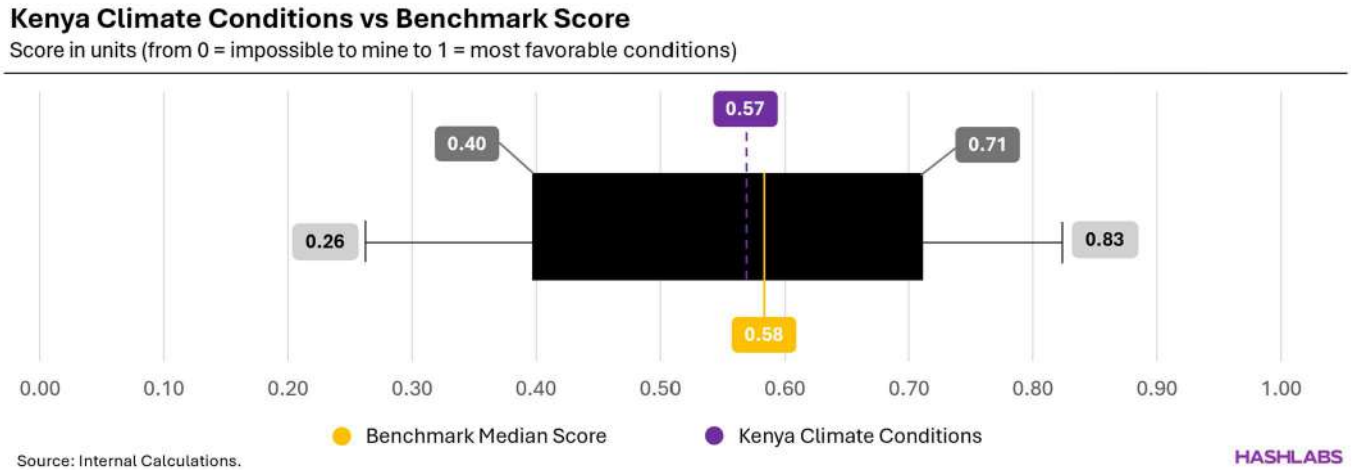
Kenya tariffs and customs framework rank 17th out of 18 countries, with a score of 0.39 against the benchmark average of 0.60 and the median of 0.59.



Imports into Kenya are subject to 16.0% VAT, although in practice this cost can sometimes be mitigated through effective, but undisclosed, tax planning mechanisms. With respect to hardware, ASIC miners are subject to an import duty of 14.0% (excluding VAT. As a result, some mining operators have opted[98] to design and construct their own infrastructure locally rather than importing pre-fabricated shipping containers, thereby reducing exposure to these higher import-related taxes.

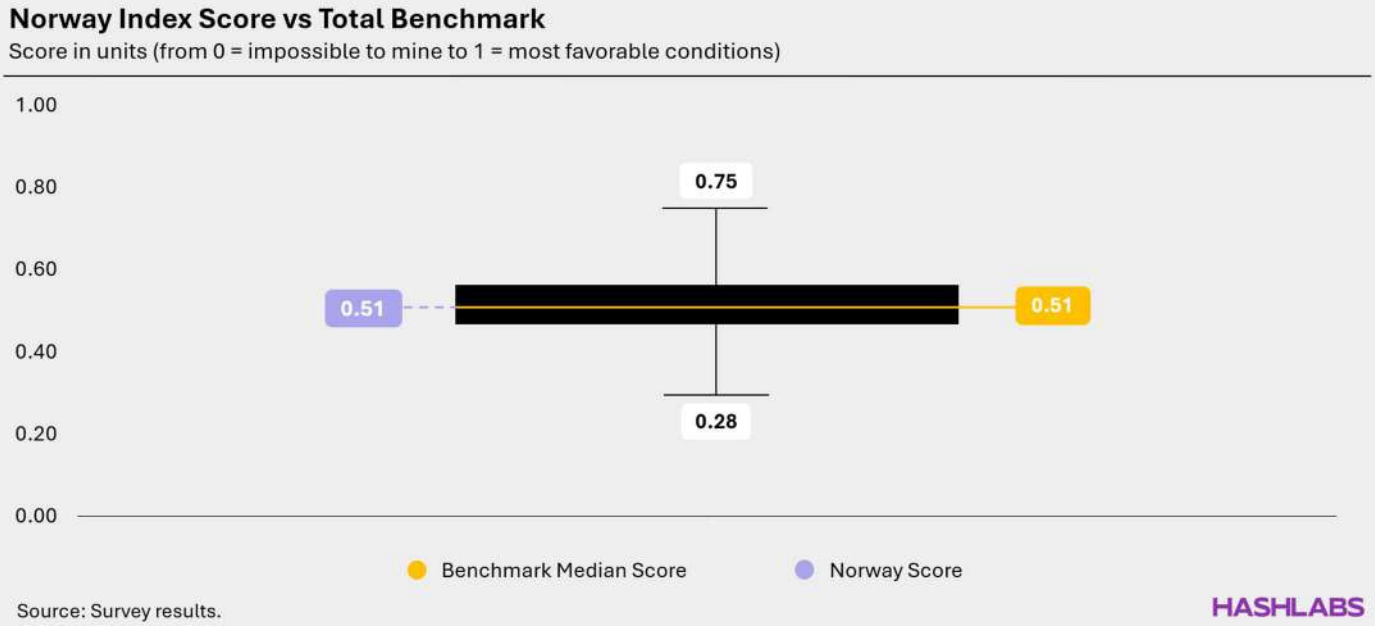
Climate Operating Conditions

Kenya's climate operating conditions rank 10th out of 18 countries, with a score of 0.57 against the benchmark average of 0.57 and the median of 0.58.



In Kenya, mining activity is primarily concentrated in the central highlands, where humidity levels (61.0%), seasonal temperatures (13°C–28°C), and limited diurnal variation (14.3°C) are highly favorable for site deployment. However, temperature stability does not offset the impact of altitude (~1 900 meters) as reduced air density can affect heat dissipation within ASIC chips, potentially impacting efficiency and increasing failure risks if not adequately addressed through airflow and cooling design. Dust exposure in the region may also affect ASIC performance and longevity.

Norway



Norway scores 0.51, symbolizing the ambiguities of Norway mining environment. Main advantage remains the highly attractive power costs (< $35.0/MWh). However the industry is increasingly unpopular as demonstrated by work on provisions to ban new mining data centers and upcoming tightening zoning requirements for new data center constructions as well as vocal opposition of the entire political spectrum against the industry. Besides, lead time to secure a grid connection can be quite long (18 – 24 months), and imports are subject to high VAT rate, but there is still possibility to move the profit center to mitigate this hurdle. Climate conditions remain highly favorable, with low temperatures and modest diurnal variation, despite elevated humidity levels.

TLDR Legal Framework

- Current legal environment is neutral for miners.
- Future regulatory framework is expected to worsen.
- Mining faces strong political opposition, with incoming zoning law to severely constrain new data center development.

TLDR Fiscal Framework

- Neutral tax regime with ability to shift the profit center abroad.
- No subsidies or fiscal incentives available for miners or data centers.
- Electricity tax is at $14.7/MWh up from 2022 initial framework at $0.56/MWh.
- High level of constraints to avoid taxes.

TLDR Permits & Licensing Regime

- No operating license required.
- Construction permits are secured within 3 - 6 months.
- Environmental impact assessment is neutrally burdensome for data center construction, water-permits can be highly restrictive.
- Emissions, heat and noise compliance level is significant for mining operations.
- Zoning restrictions highly impact land availability for data center development.

TLDR Energy Regulation & Grid Access

- Moderate barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times range from 18 - 24 months.
- Electricity costs are lower than the median (< $35.0/MWh).
- Miners grid status is neutral compared to other participants.
- Miners purchase electricity from the open market similarly to other customers and present some demand response opportunities.

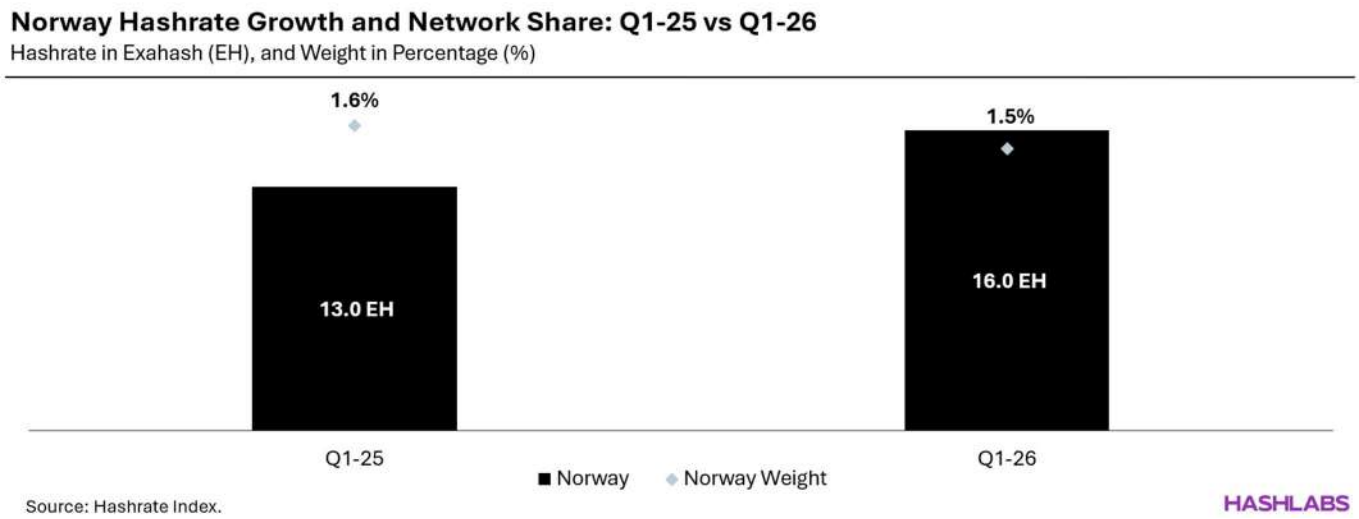
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 25.0% VAT.
- ASIC imports require a license and are not exposed to any tariff (excluding VAT).
- Import procedures are favorable for ASICs and electrical infrastructure.
- Electrical equipment lead times have slightly affected mining energization timelines (2 - 3 months).
- Mitigation mechanisms on import constraints are effective to accelerate deliveries or avoid VAT.

TLDR Climate Operating Conditions - Trøndelag

- Highly favorable temperatures level in winter and summer.
- Modest diurnal temperatures spread in summer (5°C to 24°C).
- Unfavorable humidity level 86.0%.

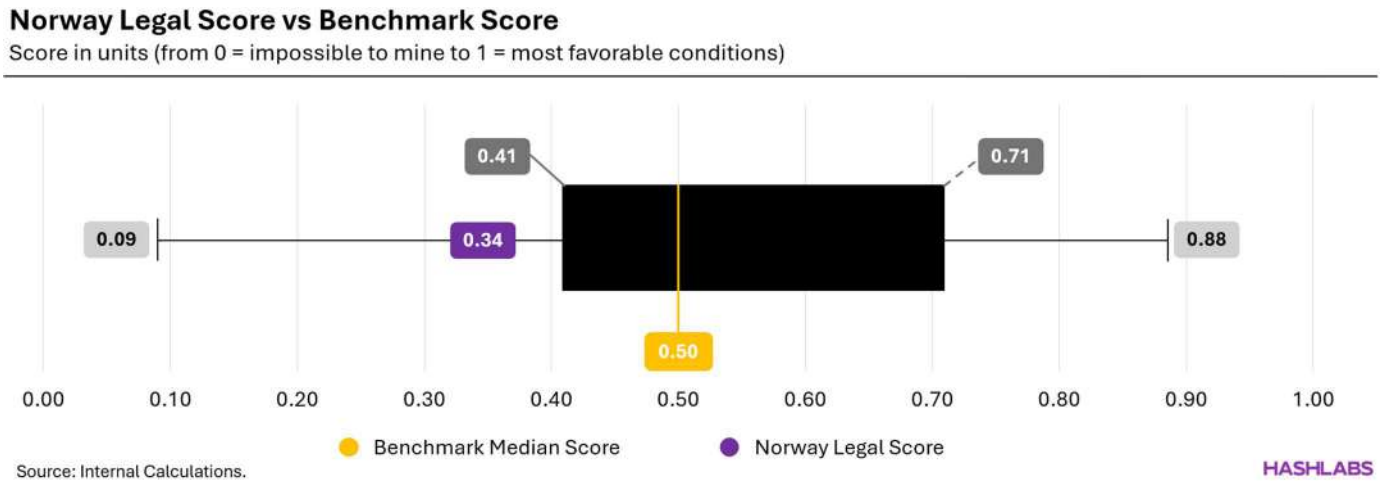
Norway Footprint



Norway is the leading nordic country in terms of hashrate with 16.0 EH in Q1-2026 up by +23% from Q1-2025, yet unfavorable regulatory framework, the presence of an electricity tax amid a stressed power supply with extended grid connections lead time could actually slow down the country growth and even curb its footprint in the midterm with the rising competition of AI data centers.

Legal Framework

Norway's legal framework ranks 15th out of 18 countries, with a score of 0.34 against the benchmark average of 0.54 and the median of 0.50



Norway shares similarities with Nordic peers Sweden and Finland, popular for being politically stable, all of those countries expressed an intention to wipe out or significantly curb the bitcoin mining footprint in the country. Although Norway historical pushback against miners is older starting in 2019 after an attempt[99] to set an electricity tax specifically for them suddenly reversed and failed. In stark contrast with their initial appeal of the data center industry when Norwegian adopted a national strategy aiming to create a data center hub.

Such unpopularity pursued in 2022 when finance minister suggested to abolish[100] miners electricity tax advantage for miners allowing access to cheaper power rates after a failed[101] attempt to ban mining earlier

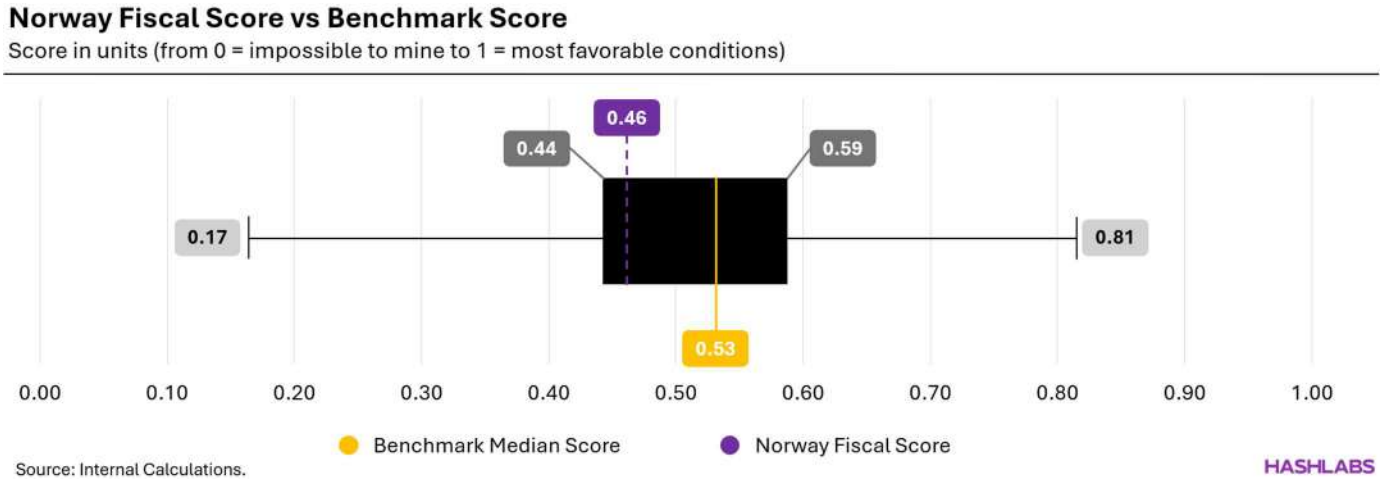
in the year. In 2023, the hike on electricity tax materialized after the removal[102] of the tax relief as we will cover in the next section. A year after another bill enacted the mandatory registration[103] of data centers giving a better understanding of current capacity to accept or decline new operations.

In June 2025 the tension exacerbated when the government reported[104] an intention to limit mining "*as much as possible*" with a ban on the establishment of new mining data centres. Moreover, new data center strategy[105] strengthened zoning requirements complexifying construction of new mining farms in the country.

Bill	Description
Data Center Strategy - 2016	Data Center Strategy[106] **allowing reduced electricity tax** from 2016 to 2022.
Blanket Mining Ban – 2022	**Proposal to ban mining** activities rejected by the Norwegian Parliament.
Registration Rules - 2025[107]	**Data center with 0.5MW of power capacity face a mandatory registration**, and must specify the estimated percentage of power consumption used for mining.
Potential Mining Ban - 2025	Policymakers are considering[108] provisions that could enable **temporary or permanent restrictions on the establishment of new mining data centers**.
Data Center Strategy Updated - 2025	New data center strategy[109] **tightening zoning requirements for data center constructions** aligning with intent to reduce new mining operations.

Fiscal Framework

Norway's fiscal framework ranks 13th out of 18 countries, with a score of 0.46 against the benchmark average of 0.52 and the median of 0.53.



Despite an electricity tax raised in 2023, current taxation environment is gauged neutral by respondents, this could be partially explained as the power tax remains reasonable - annual average at $14.7/MWh or NOK 141.7/MWh - and companies have the ability to shift the profit center to another country mitigating VAT burden and fiscal risks. However, avoiding taxes remains highly difficult in a country that has a clear anti-mining agenda with an elevated scrutiny since the data center mandatory registration on their operations.

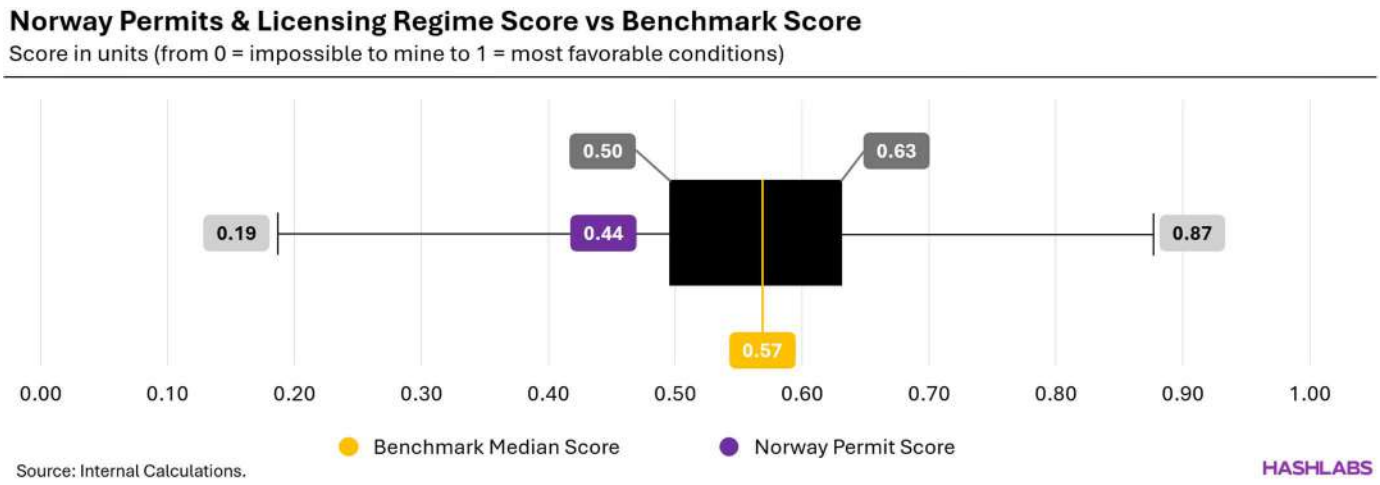
The electricity tax has been a mounting issue for bitcoin miners, despite it remains low, the government increased the tax for data centers from NOK 5.5/MWh ($0.56/MWh) to NOK 158.4/MWh ($16.4/MWh) in 2023 squeezing parts of miners' margins.

Corporate income tax in Norway is at 22.0%, while VAT is at 25.0% but can reclaim VAT back through the selling of HPC services along with their mining business but mining itself remains ineligible[110]. Another option is shifting to a hosting business, where VAT is directly invoiced to customers.

Program Name	Description
Data Center Strategy - 2016	Data Center Strategy **allowing reduced electricity tax** from 2016 to 2022 at NOK 5.46/MWh (~ $0.56/MWh).
Electricity Tax Bill - 2019	- **Attempt to set electricity tax on Bitcoin miners** that eventually failed.
Electricity Tax Bill - 2022	- Effective since 2023 **data centers are exposed to a seasonal power tax**. - NOK 91.6 (~ $9.5) per MWh from January to March. - NOK 158.4 (~ $16.4) per MWh from April to December.

Permits & Licensing Regime

Norway's permit & licensing framework ranks 16th out of 18 countries, with a score of 0.44 against the benchmark average of 0.55 and the median of 0.57.

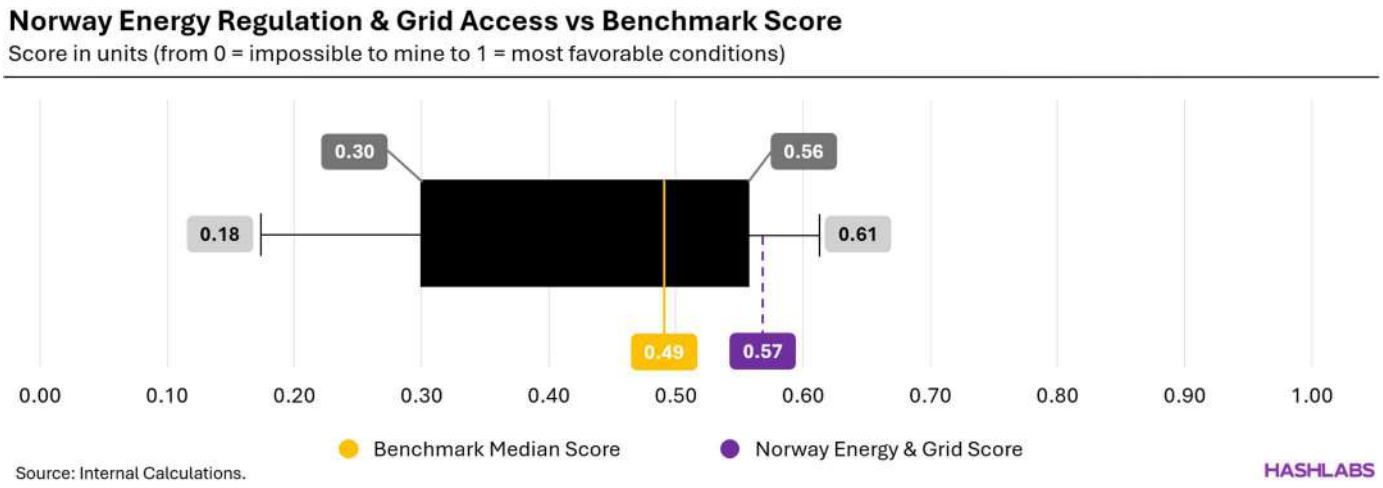


Although no licensing requirements exists to operate a mining site, recent legislation has introduced reporting obligations on operational infrastructure. Construction permitting timelines are broadly in line with those observed across comparable jurisdictions - typically ranging from 3 to 6 months . Emissions, heat and noise regulation is significantly restrictive on operations and land availability is highly impacting by zoning rules.

Indeed recent data center strategy has tightened zoning compliance requirements making construction of new mining farms materially harder. Government can decide who has priority to grid access breaking with previous principle of "*first come first serve*" that traditionally ruled the grid access, and is planning a provisions with a temporary or permanent ban on the establishment of mining data centers.

Energy Regulation and Grid Access

Norway energy regulation and grid access rank 5th out of 18 countries, with a score of 0.57 against the benchmark average of 0.44 and the median of 0.49.



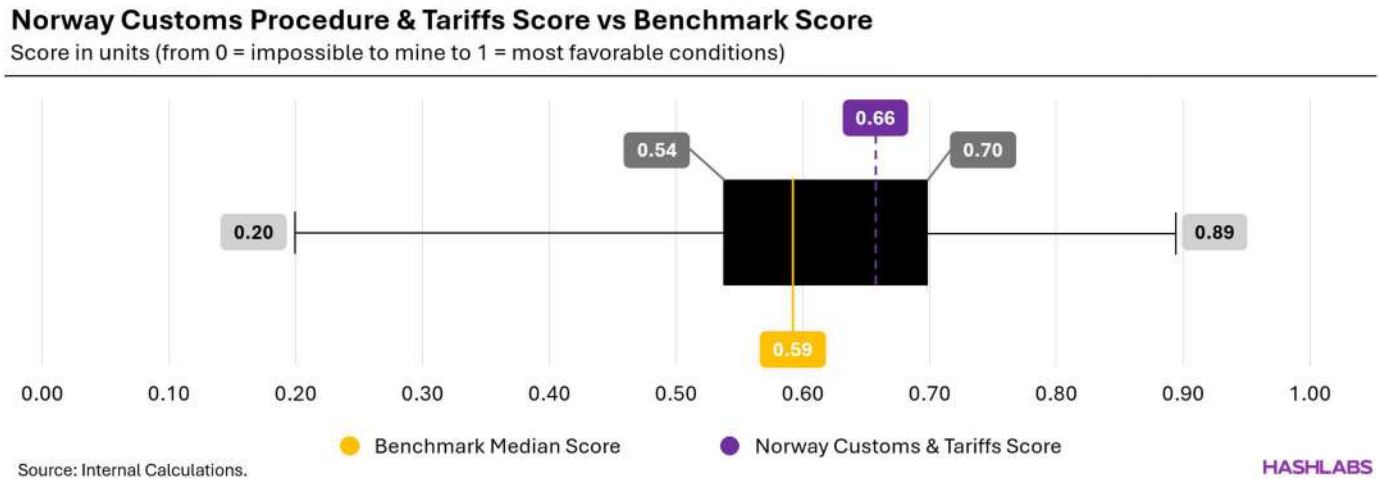
Barriers to entry in the energy market are moderate but could rise with the growing appetite from AI data center and less negative image they hold compare to miners this is showed by longer grid connection lead time requiring between 18 to 24 months. Miners electricity costs are lower than the median (< $35.0/MWh) and are mainly spotted in northern Norway at surplus zones (NO3 & NO4) due to abundant and cheaper stranded hydropower (89.0% of country electricity mix[111]).

The southern of Norway is connected[112] to the European market linking its current level to prices in continental Europe. The lack of transmission capacity between South and the North created a large price difference but could narrow as network transmission could be enhanced, still miners have some relief as it could be finalized[113] by 2040 despite no clear timelines. Norwegian miners can also earn revenues from demand response program but it's no co-mingled with the electricity purchase.

Furthermore, included in the new data center strategy the government has signaled a shift away from the traditional "first come, first served" principle governing grid access, and is now reserving the right to determine priority users.

Customs Procedure & Tariffs

Norway tariffs and customs framework rank 6th out of 18 countries, with a score of 0.66 against the benchmark average of 0.60 and the median of 0.59.

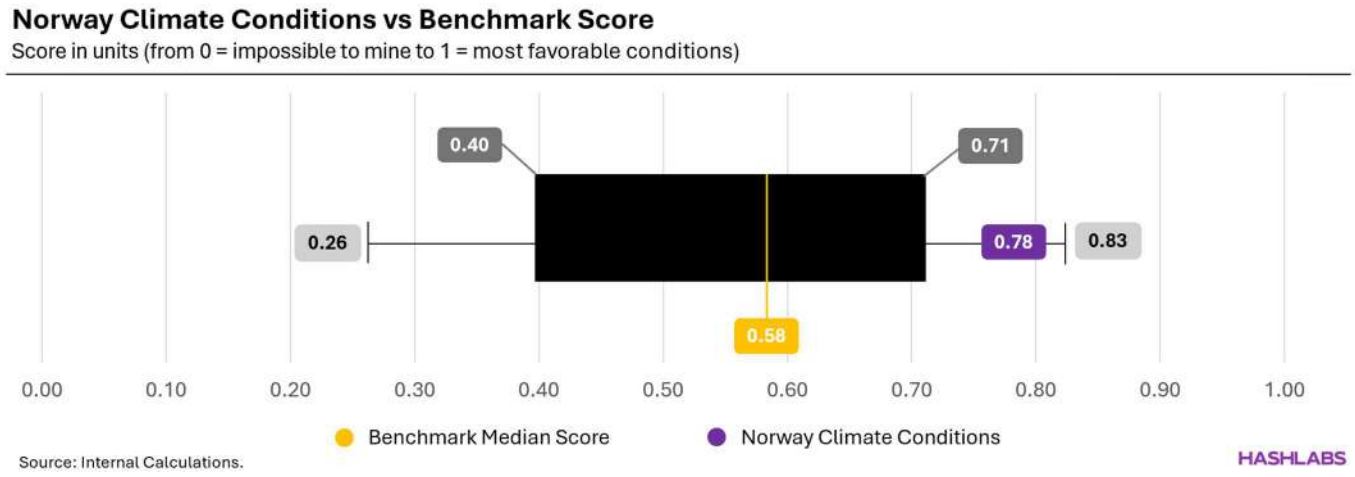


As previously discussed, bitcoin mining is not considered a VAT-eligible activity, meaning miners cannot reclaim input VAT on equipment purchases. Nevertheless, effective mitigation mechanisms, such as structuring operations to provide HPC or hosting, have emerged to alleviate this burden.

More broadly, Norway's import and trade environment remains supportive for miners. There is no specific import license requirement for ASICs, customs procedures are generally efficient, and no tariffs are levied on ASIC imports. As in many jurisdictions, site energization can be modestly affected by global lead times for critical electrical equipment.

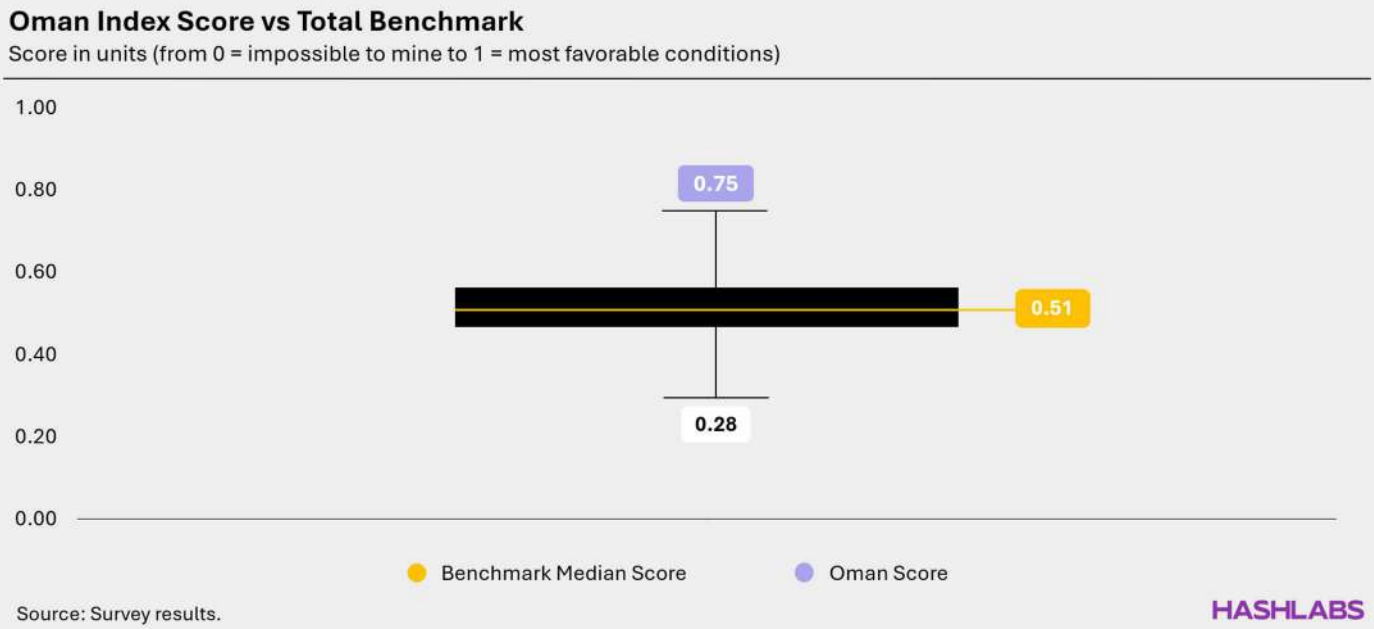
Climate Operating Conditions

Norway's climate operating conditions rank 3rd out of 18 countries, with a score of 0.78 against the benchmark average of 0.57 and the median of 0.58.



In the Nordics, despite high humidity level (86.0% in Norway) countries boast highly favorable climate conditions to mine specifically for hydro miners benefiting from negative temperatures (-12°C to 7°C in Norway during winter). Norway temperature spread between day and night is modest (19.3°C on average) and favorable to maintain stable cooling conditions for machines.

Oman



Oman scores 0.75, the highest across the benchmark for overall operating conditions in the industry. This strong performance is largely driven by an extremely favorable regulatory and fiscal framework designed to incentivize the development of mining data centers, including direct state participation in a mining company and numerous free economic zones offering tax advantages. Zoning and related regulations are largely unrestricted, as mining operations are located in desert areas far from population centers and urban hubs. The only neutral factors are grid access and electricity rates ($38.5 - $45.0/MWh), which present moderate barriers to entry. Climate conditions can be detrimental to miners due to elevated temperatures in summer and dust, but appropriate measures can comfortably mitigate heat impact on chips.

TLDR Legal Framework

- Current legal environment is highly favorable for miners.
- Future regulatory framework is expected to remain highly favorable.
- Mining is central to its Digital Future Program as illustrated by existence of a state-owned data center.

TLDR Fiscal Framework

- Highly favorable tax regime and ability to shift the profit center abroad.
- Subsidies or fiscal incentives available for miners or data centers in free zones.
- There is no electricity tax.
- Low level of constraint to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- An operating license is required and can be delivered in more than 12 months.
- Construction permits are secured within 4 months.

- Environmental and water-permits requirements are not burdensome for data center constructions.
- Emissions, heat and noise compliance level is unsignificant for mining operations.
- Zoning restrictions have a very low impact on land availability for data center development

TLDR Energy Regulation & Grid Access

- Important barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times range from 6 - 12 months.
- Electricity costs are slightly lower than the median ($38.5 – $45.0/MWh).
- Miners grid status is comparable to other participants.
- Deregulation rules allow to secure power contracts directly with renewables producers.

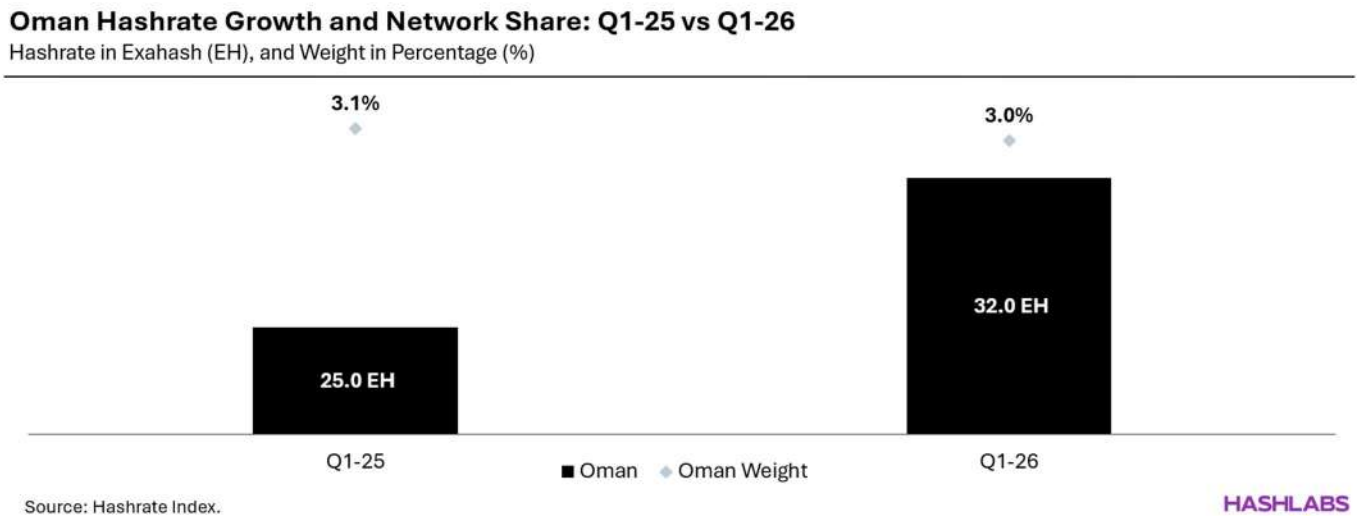
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 5.0% VAT but is exempted in free zones.
- ASIC imports do not require a license and are subject to import tariff less than 5.0% (excluding VAT).
- Import procedures are highly favorable for ASICs and electrical infrastructure.
- Electrical equipment lead times have affected mining energization timelines (1 – 5 months).
- Mitigation mechanisms are effective to accelerate deliveries using custom brokers.

TLDR Climate Operating Conditions - Salalah

- Favorable temperatures level in winter but highly unfavorable in summer (> 35°C).
- Low diurnal temperatures spread (15.6°C).
- Highly favorable humidity level 63.0% but dust exposure.

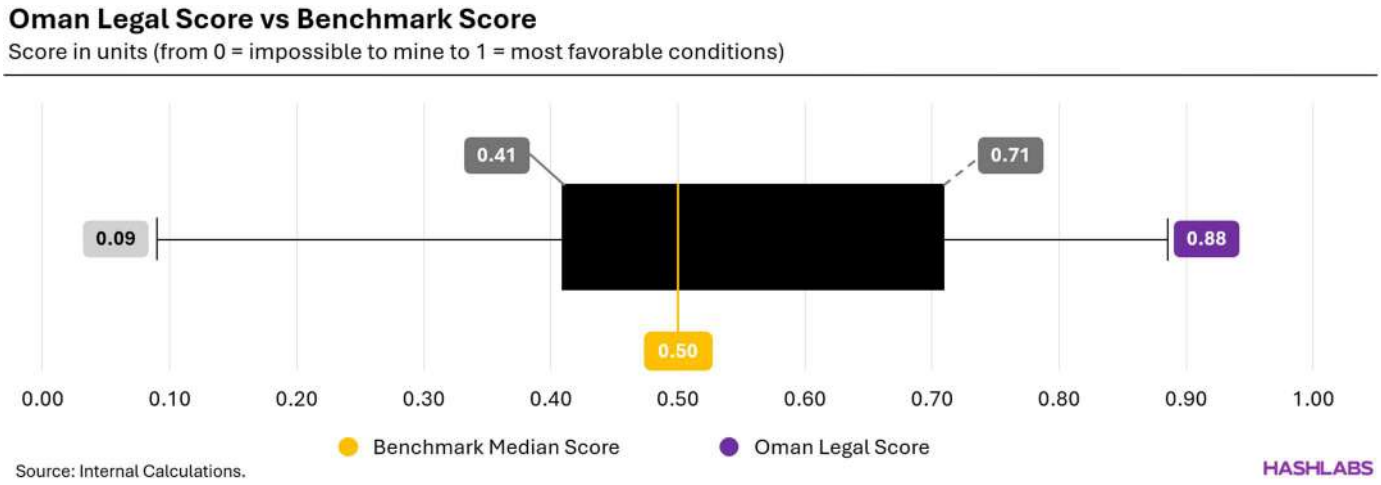
Oman Footprint



In Q1-2026, Oman hashrate hit 32.0 EH gaining 28.0% from Q1-2025 at 25.0 EH. This growth is likely to continue as more industrial applications of gas conversion are installed near oil and gas fields to convert wasted gas otherwise flared. The country could become king in the middle east by maintaining this ultra-favorable environment, potentially overtaking the UAE in hashrate leadership.

Legal Framework

Oman's legal framework ranks 1st out of 18 countries, with a score of 0.88 against the benchmark average of 0.54 and the median of 0.50



In Oman, the regulatory environment for Bitcoin mining is highly favorable. Aligned with Oman Vision 2040[114], which aims to diversify the economy and gradually reduce reliance on hydrocarbons, the state has demonstrated a supportive stance toward bitcoin mining. This support materialized[115] notably in 2023, with the launch of a state-backed mining project in the Salalah Free Zone, in partnership with a private operator.

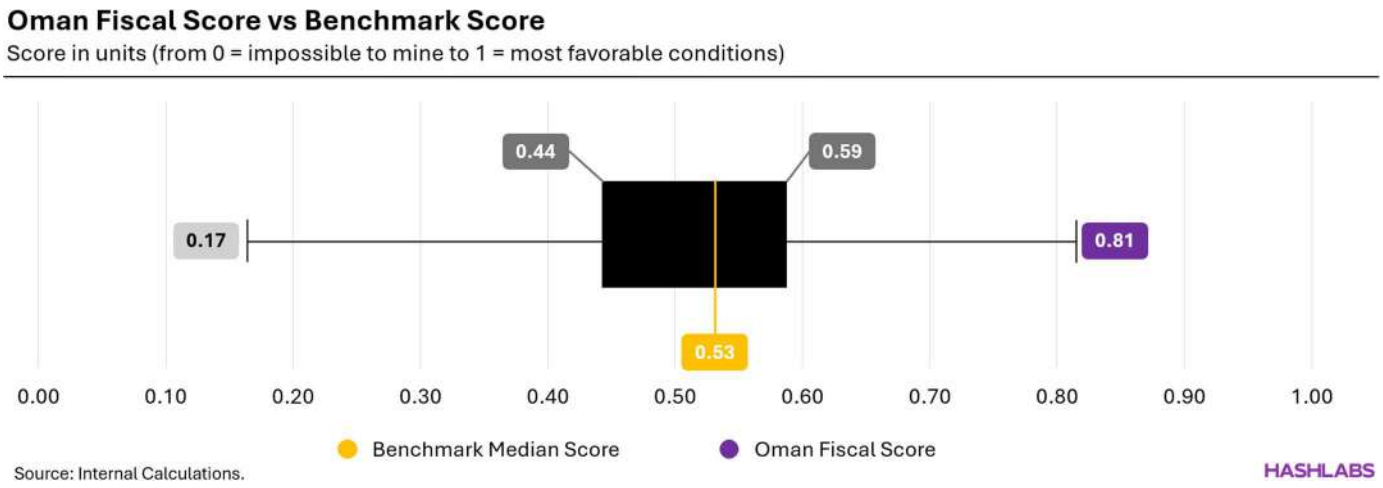
More broadly, the sector benefits from strong government backing, political stability, and an attractive investment climate, particularly through the country's free zones.

In parallel, the renewable energy policy adopted[116] in 2025 introduced meaningful reforms to the electricity market, enabling large loads to contract power directly from generators via the grid. By reducing reliance on intermediaries, this framework is expected to improve market efficiency and further enhance the attractiveness for power loads.

Program Name	Description
Oman Vision 2040 – 2020	Oman Vision 2040 is a comprehensive national strategy targeting: - **Diversification of the economy to reduce fossil fuels reliance.** - Improvement of human capital, promotion environmental sustainability.
State-owned DC – 2023	**State-owned mining data center launched** by Oman's Ministry of Transport, Communications, and Information Technology in partnership with Exahertz private company.
Proposed Framework - 2023	Consultation on a national virtual asset to propose a regulatory framework .
Renewable Policy – 2025	Regulations on electricity wheeling **allow large consumers to purchase power directly from renewable energy producers** through the national grid.

Fiscal Framework

Oman's fiscal framework ranks 1st out of 18 countries, with a score of 0.81 against the benchmark average of 0.52 and the median of 0.53.

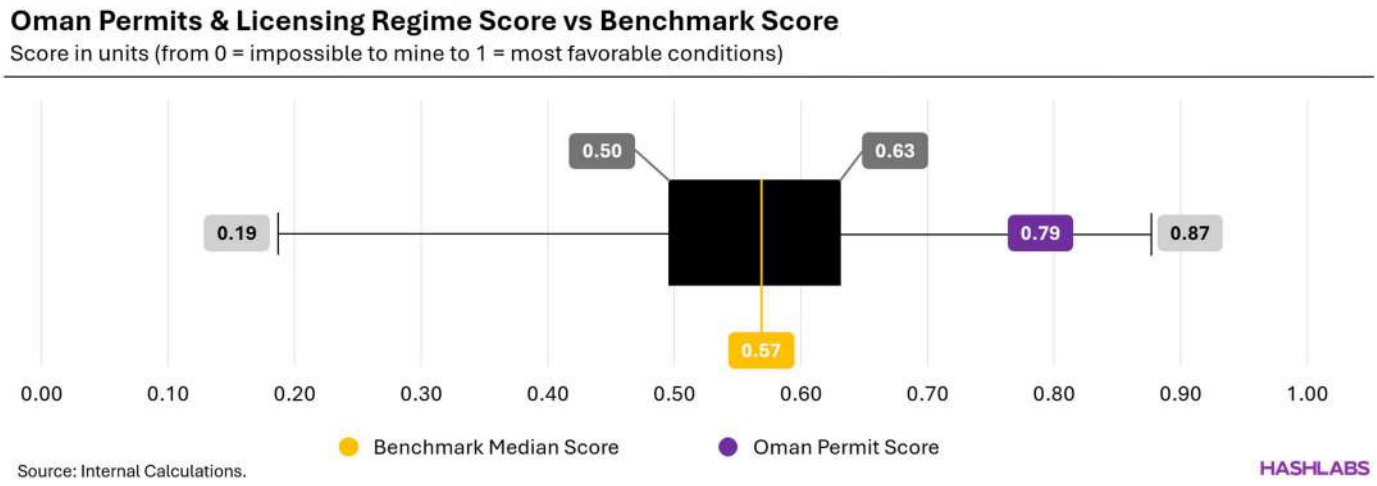


Oman's attractiveness to foreign investors is particularly prevalent on the fiscal front, where free zones play a central role in driving economic diversification and capital inflows. Within these zones - most notably the Salalah Free Zone, which hosts the country's largest Bitcoin mining capacity - operators benefit from exemptions on import duties, VAT, and corporate income taxes.

In addition, miners may access discounted electricity rates upon obtaining the required mining license[117]. Outside Free Zones, a flat 15.0% corporate income tax applies, companies established within Free Zones such as Salalah or Sohar can benefit from a tax holidays ranging from 25 to 50 years.

Permits & Licensing Regime

Oman's permit & licensing framework ranks 2nd out of 18 countries, with a score of 0.79 against the benchmark average of 0.55 and the median of 0.57.

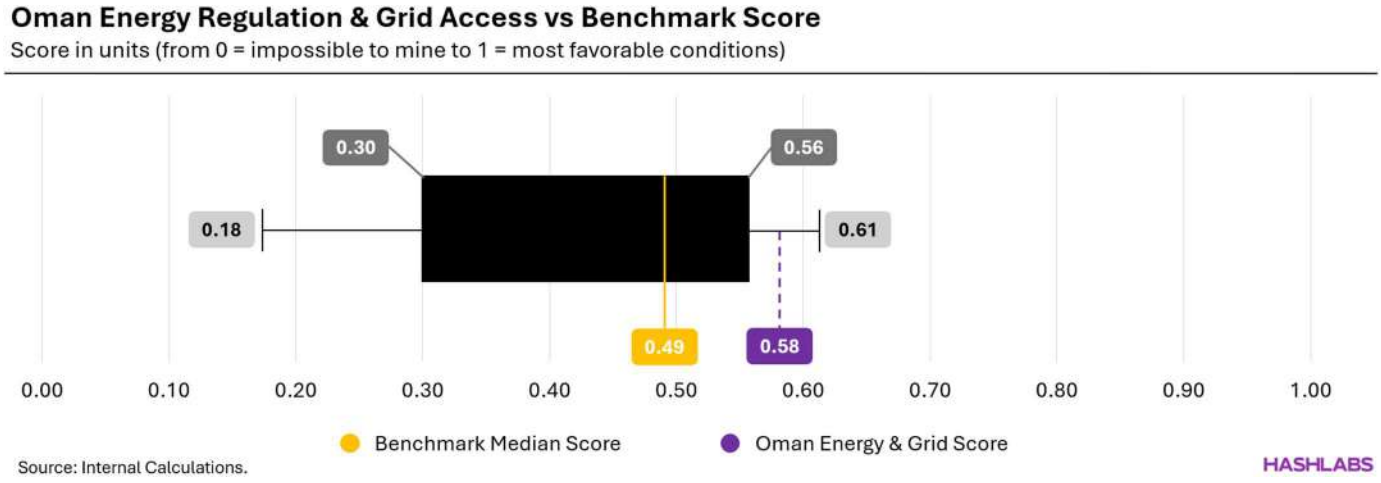


In Oman, mining infrastructure must be registered. While this licensing process can involve extended timelines - exceeding 12 months - once approval is secured, the regulatory burden is minimal. Oversight primarily falls under the Ministry of Transport, Communications and Information Technology (MTCIT).

Beyond licensing, hurdles are limited. Environmental impact assessments, water-use permits, and heat, noise, or emissions regulations are presenting low level of constraints for operations. Zoning rules have low impact on land availability for data center construction and are unsignificant for operations as most facilities are located in remote desert areas.

Energy Regulation and Grid Access

Oman energy regulation and grid access rank 4th out of 18 countries, with a score of 0.58 against the benchmark average of 0.44 and the median of 0.49.



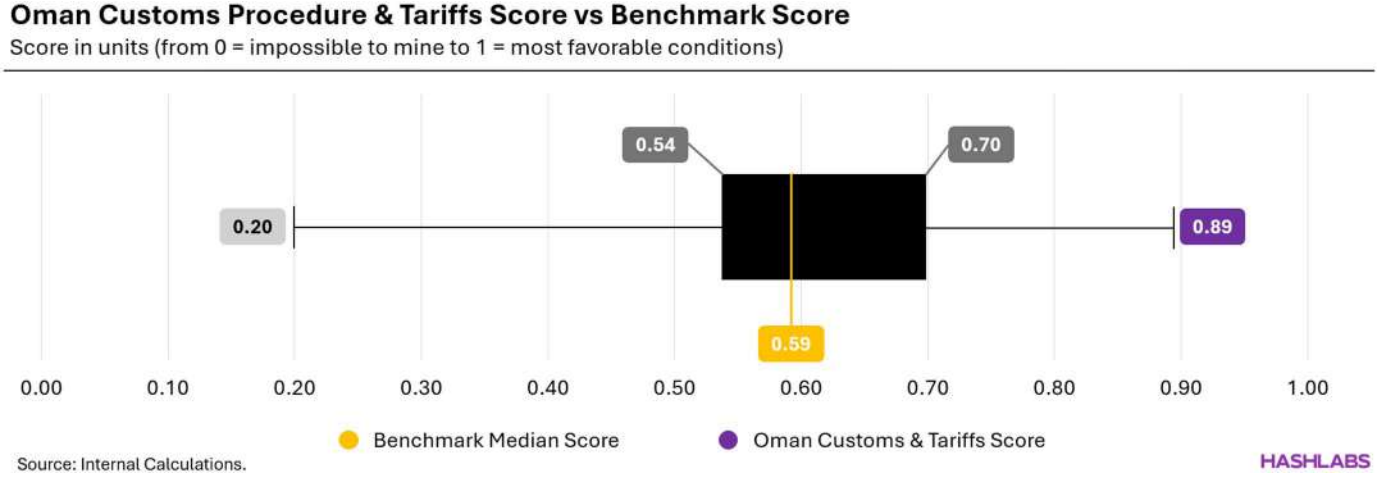
Oman's electricity system[118] is heavily reliant on fossil fuels, with natural gas accounting for approximately 95.5% of generation. This concentration has prompted the government to pursue an energy diversification strategy, anchored in large-scale investments in renewable energy, particularly solar.

Under its fuel diversification policy, Oman targets[119] 30.0% renewable electricity by 2030, a shift that is expected to increase system intermittency and elevate the strategic value of flexible large loads. In a system already characterized by surplus capacity - estimated at 1.3 GW in 2023 - this dynamic has translated into competitive grid power pricing for miners ranging between $38.5/MWh - $45.0/MWh.

Recent renewable market reforms further enhance this attractiveness by allowing large consumers to contract directly with renewable power producers while remaining grid-connected. Today market entry barriers are important but grid connection timelines remain short (6 – 12 months), a favorable and evolving regulatory framework that positions miners as potential stabilizing agents within Oman's transitioning power system toward more intermittent energy sources.

Customs Procedure & Tariffs

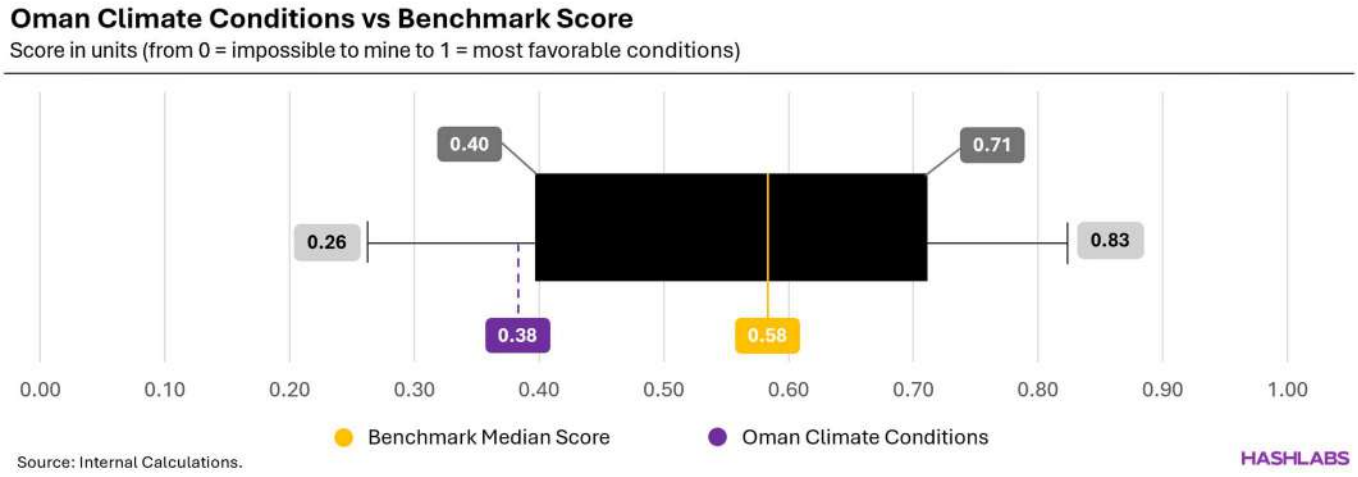
Oman tariffs and customs framework rank 1st out of 18 countries, with a score of 0.89 against the benchmark average of 0.60 and the median of 0.59.



Oman's highly favorable fiscal framework extends to the import process, which is viewed as particularly accommodating for mining operators. The importation of mining hardware and electrical equipment faces minimal administrative friction, with no import license required for ASICs, effectively eliminating procedural barriers and rendering tariff-mitigation strategies largely unnecessary. Import duties are generally lower than 5.0%, and in free zones these costs can be fully offset through VAT and customs exemptions.

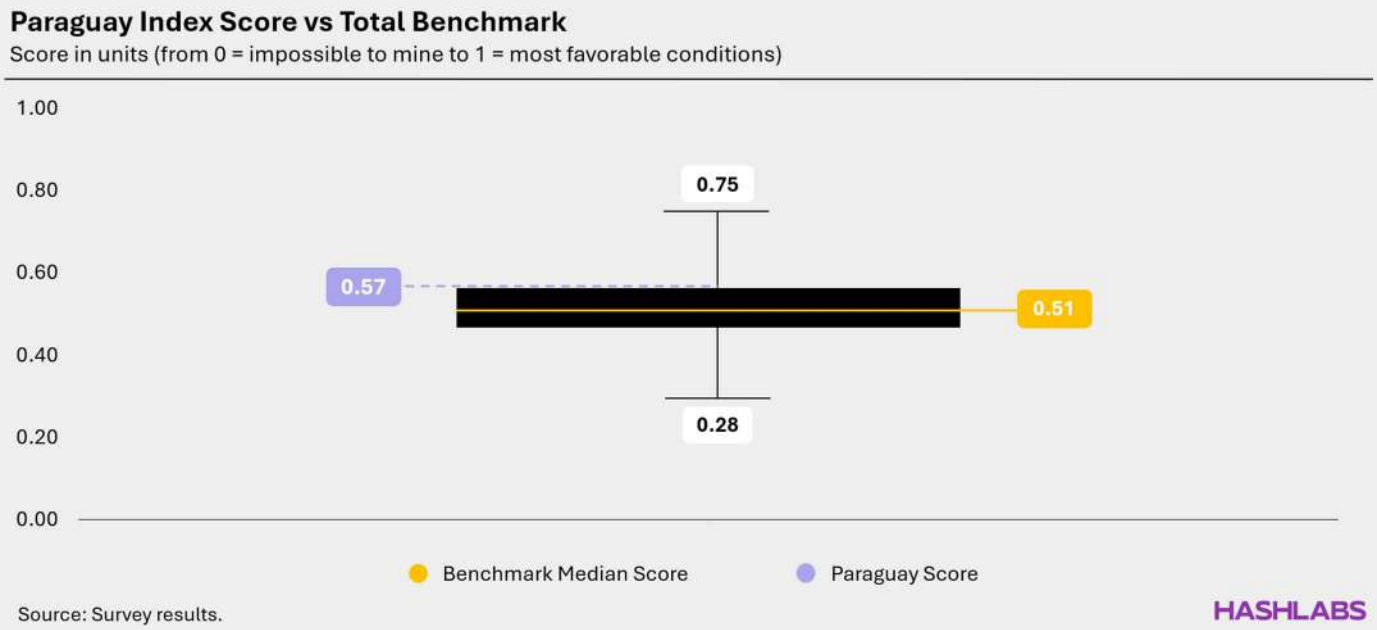
Climate Operating Conditions

Oman's climate operating conditions rank 14th out of 18 countries, with a score of 0.38 against the benchmark average of 0.57 and the median of 0.58.



Oman climate in the Salalah region is particularly hot in summer (25°C – 37°C) and more favorable in winter despite spikes above 30°C are not unusual. While the diurnal temperature spread is low, the unfavorable hot climate heavily weighs on miners and infrastructure requirements to absorb those conditions. Significant CAPEX may be required to mitigate the warm exposure on chips. Immersion or Hydro are the preferred option to prevent short lifespan of a ASIC fleet.

Paraguay



Paraguay continues to dominate South America with a score of 0.57. The legal framework is likely to evolve in a country where miners have navigated proposed bans and the cancellation of previously favorable mining regulations. Despite this instability and rising power costs, a clearer regulatory framework could be enforced. The tax regime is favorable, and grid access presents low barriers with short interconnection timeframes. From a permitting perspective, zoning regulations are significant for data center operations. Tariffs on mining equipment are low, though customs delays and administrative burdens persist. Remarkably, effective mechanisms and strong relationships with clearing agents can substantially mitigate these challenges. Climate conditions are slightly unfavorable due to significant temperature peaks, which often exceed 30°C.

TLDR Legal Framework

- Current legal environment is slightly favorable.
- Future regulatory framework is expected to become neutral but mixed views on country trajectory.
- Upcoming rise in electricity tariffs, potential restrictions on mining but also greater stability with a more transparent framework depending on the conclusion of the final text.

TLDR Fiscal Framework

- Favorable tax regime and ability to shift the profit center to another country.
- There is an electricity tax and is expected to ramp up in 2026.
- Bitcoin miners developing HPC projects could benefit from better power terms.
- No subsidies but there are fiscal incentives available (VAT and tariffs exemptions).
- Neutral level of constraint to avoid or mitigate taxes.
- On recent years fiscal authorities have reduced investment incentives for miners.

TLDR Permits & Licensing Regime

- No explicit operating license required but mandatory registration with tax authorities & grid operator.
- Construction permits are secured within 6 – 9 months.
- EIA and water permitting requirements are neutrally burdensome for data center construction.
- Emissions, heat and noise compliance level are significant for mining operations.
- Zoning restrictions are neutral on land availability for data center development

TLDR Energy Regulation & Grid Access

- Neutral level of barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times average 5 - 10 months.
- Electricity costs range from $42.5 - $55.0/MWh.
- 5-year PPA is an industry standard with ANDE national company but exposure to variable rate is accessible as well.

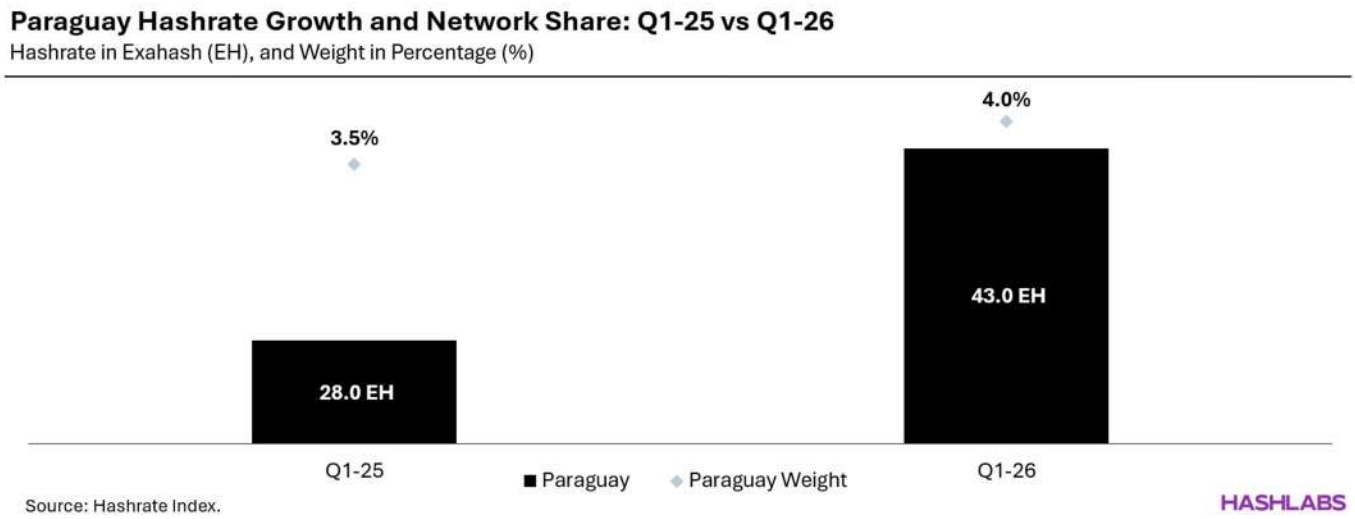
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 10.0% VAT and can be exempted.
- ASIC imports don’t require a license and are subject to a 4.0% - 10.0% tariff (excluding VAT).
- Import procedures are marginally favorable for ASICs and favorable electrical infrastructure.
- Electrical equipment lead times have affected mining energization timelines (2 - 4 months).
- Mitigation mechanisms on import constraints are effective to reduce custom burden.

TLDR Climate Operating Conditions – Amambay

- Neutra temperatures level in winter but unfavorable in summer (>= 35°C).
- Neutral diurnal temperatures spread (22.1°C).
- Volatile humidity level ranging from 38.0% to 84.0%.

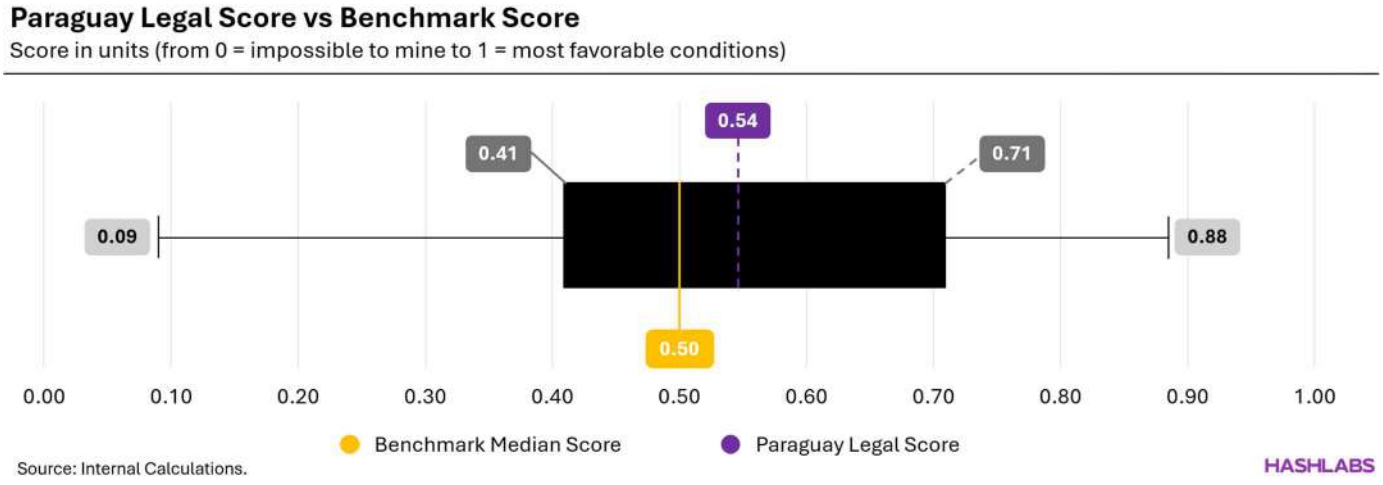
Paraguay Footprint



Amid highs and lows, Paraguay remains king in Latin America with hashrate surging from 28.0 EH in Q1-2025 to 43.0 EH in Q1-2026. Regulation should advance as agencies are collecting more data on miners to better capture the industry and establish a clear framework. Additionally, abundant hydropower surplus at Itaipu dam should continue to fuel miners appetite, maintaining Paraguay dominance in South America.

Legal Framework

Paraguay's legal framework ranks 8th out of 18 countries, with a score of 0.54 against the benchmark average of 0.54 and the median of 0.50



Surprisingly, Paraguay has become the Latin America mining hub in a highly volatile regulatory context where country lawmakers and governmental authorities shift from favorable to a hostile takeover before reverting back. To illustrate this versatile trajectory, in 2022 a proposed framework for mining and cryptocurrencies passed both chambers (Congress & Senate), but ultimately failed[120] when the president vetoed the proposal.

This framework included[121] a 15.0% capped fee on industrial electricity rate for miners and a mandatory reporting to the national grid operator National Electricity Administration (ANDE).

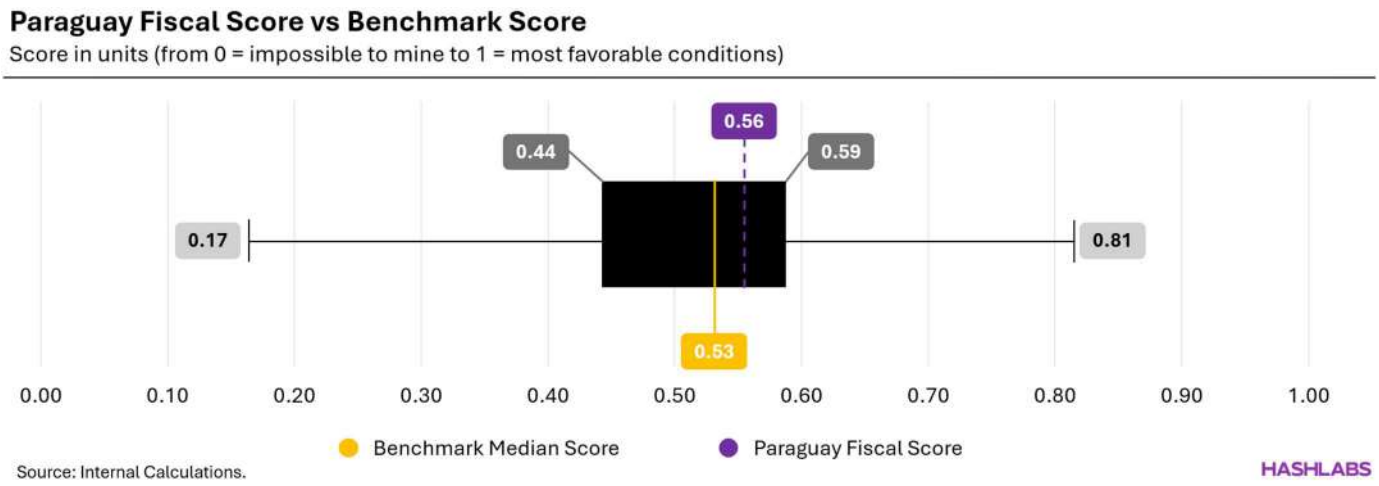
A similar trajectory occurred in 2024, when lawmakers first proposed[122] a temporary ban of 180 days (or until regulated) on all mining operations. Several weeks later, this ban was halted[123] by senators outlining the large benefits miners offer – estimated[124] at $12.0M per month - by monetizing Itaipu hydropower surplus instead of exporting to Brazil at highly discounted rates ($10.0/MWh). Instead, authorities launched raids[125] on illegal operations accused of threatening grid stability. In total, ANDED disclosed[126] that 43 seizures occurred since 2023 representing about 90 MW of power capacity.

In 2025, lawmakers passed a bill[127] to strengthen reporting requirements, ANDE grid operator must now maintain a list of all approved miners in the network and the ministry of industry and Commerce must report information collected on registered miners. Upcoming legislation on mining could provide a definitive and clearer framework for mining or wipe out industry footprint with stringent rules. In a nutshell, sentiment on Paraguay is very mixed due to unpredictable policy shifts.

Bill	Description
Mining Framework Proposal - 2021	Bill to establish a **tax and regulatory framework for businesses operating in the cryptocurrency and mining sectors**: - Propose to exempt VAT on mining companies. - Mandatory reporting of energy consumption to the grid operator National Electricity Administration (ANDE). - Power rate subsidy to cap tariff fee at 15.0% of industrial rate.
President Vetoed Mining Regulation - 2022	The proposed mining framework that passed the Senate and Congress has been **vetoed by the president** due to grid concerns.
Proposed Ban - 2024	**Draft bill to temporary ban** (180 days or until regulated) **mining** data centers.
Cancelled Ban & Crackdown - 2024	Facing a potential loss of revenue, **senators halted the proposed ban** and ultimately lead to seizures on illegal mining farms (2,738 units seized).
Registration Requirements - 2025	The Ministry of Industry and Commerce must **report on registered miners,** while the state electricity company **must list all authorized electrical connections for mining operations.**

Fiscal Framework

Paraguay's fiscal framework ranks 7th out of 18 countries, with a score of 0.56 against the benchmark average of 0.52 and the median of 0.53.



Despite a tumultuous regulatory backdrop, fiscal conditions have not translated into catastrophic outcomes for bitcoin mining operations. From a taxation standpoint, Paraguay remains highly competitive, with a 10.0% corporate income tax rate and the ability to shift profit centers abroad, resulting in a neutral level of constraint for tax optimization. Nevertheless, successive electricity tariff increases have materially pressured profitability, with base industrial rates rising by 54.0% in 2022, when miners were required to enter five-year PPAs, followed by an additional 16.0% increase in 2024. A new tariff hike will materialize in 2026 but miners developing HPC projects could benefit from better terms.

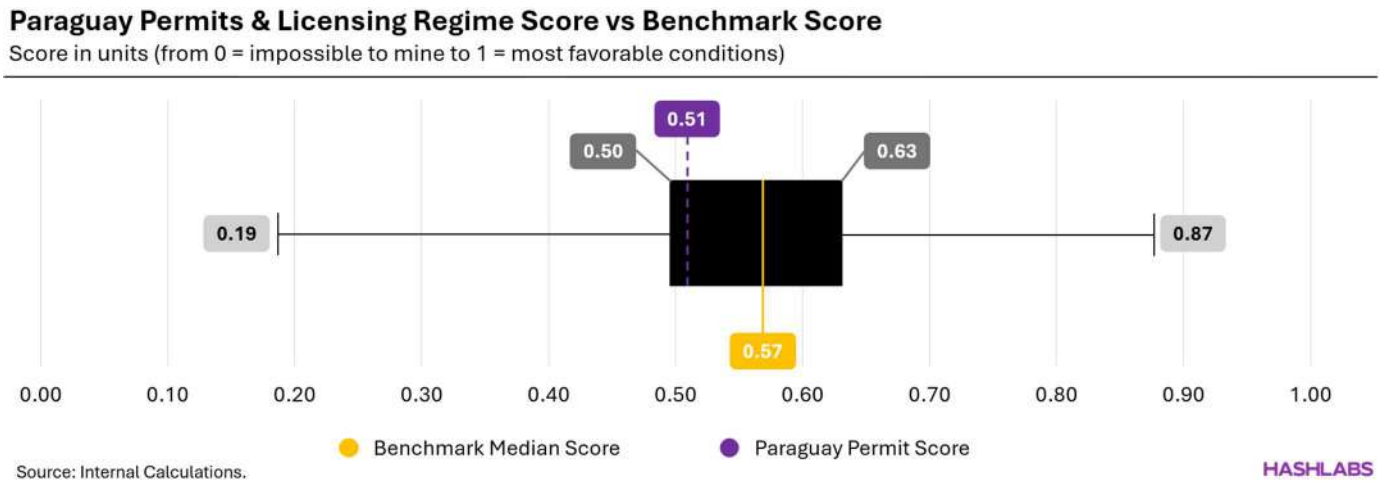
By qualifying under the 60/90 program [128], a legislative reform of the prior investment-incentives framework, miners may obtain exemptions from VAT and import duties on ASICs and electrical infrastructure assets. However, respondents noted that legacy incentive schemes have been substantially diminished for miners as illustrated by the incoming electricity tariffs rise after being already revised in 2022 and 2024.

Recently, a 2026 decree introduced preferential[129] electricity tariffs and 15-year price stability for AI and cloud computing facilities, while explicitly excluding bitcoin miners. This policy differentiation signals a potential strategic pivot toward alternative data centers and could further erode long-term power access.

Program	Description
Electricity Rate Hike - 2022	The Administración Nacional de Electricidad (ANDE) Paraguay's national electricity grid operator **increased the prices by 54.0%** as miners were contracting 5-yr PPA.
Electricity Rate Hike - 2024	The Administración Nacional de Electricidad (ANDE) Paraguay's national electricity grid operator announced in a press conference that **it would continue its planned electricity price increase for legal crypto miners by 16.0%.**
60/90 Reform - 2025	New law replacing older 60/90 on **investment incentives** for Paraguayan and foreign investors for up to 10 years: - Tax exemption on dividends and profits taxes. - **Tariffs and VAT (Value Added Tax) exemption** on imported capital goods.
Electricity Rate Hike - 2026	Expectations of **additional increase in electricity tariffs**.

Permits & Licensing Regime

Paraguay's permit & licensing framework ranks 12th out of 18 countries, with a score of 0.51 against the benchmark average of 0.55 and the median of 0.57.



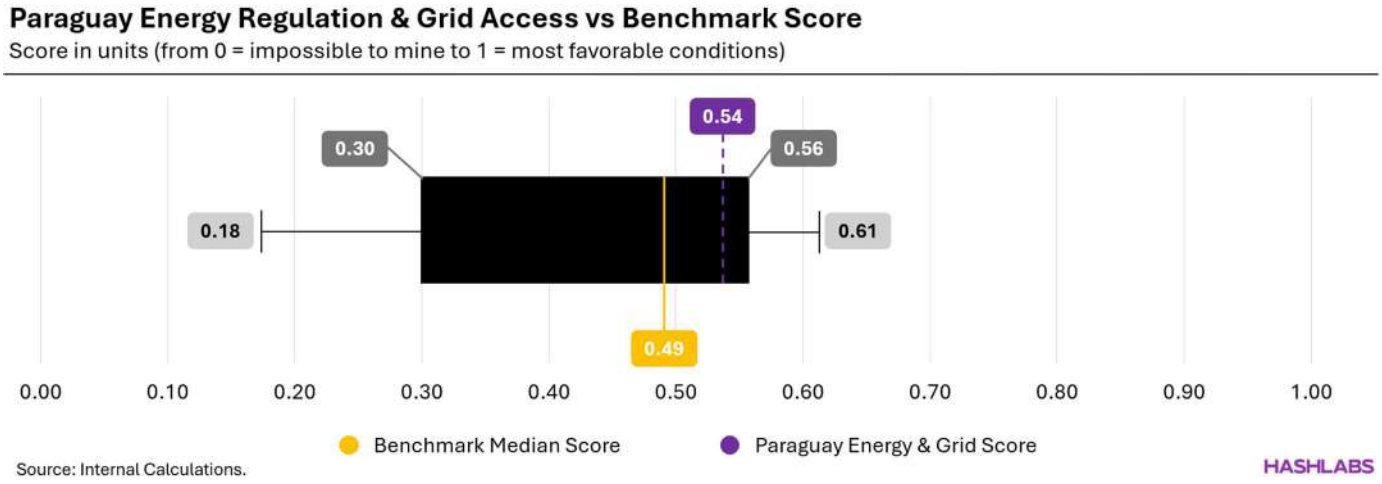
Bitcoin miners in Paraguay are subject to a mandatory reporting of their activities to grid operators and tax authorities, but are not exposed to specific licensing to operate. As of 2024, approximately 45 miners have a license, with an additional 20 applications pending, reflecting sustained interest in the jurisdiction.

Recently adopted regulatory resolutions have strengthened reporting and disclosure obligations, requiring miners to provide more detailed operational and consumption data to both government authorities and ANDE, the national grid operator.

From a development standpoint, construction permits typically require 6 - 9 months to be approved. While zoning regulations are neutrally permissive with respect to land availability, on the other hand emissions, heat and noise thresholds are substantially more restrictive on data center operations.

Energy Regulation and Grid Access

Paraguay energy regulation and grid access rank 6th out of 18 countries, with a score of 0.54 against the benchmark average of 0.44 and the median of 0.49.



Paraguay's electricity system is entirely powered by hydropower, largely thanks to the Itaipu Dam, the world's second-largest hydroelectric facility with an installed capacity of 14.0 GW[130]. This exceptional asset

underpins Paraguay's attractiveness for bitcoin miners, who tend to cluster their infrastructure near Itaipu to secure abundant, low-cost, and highly reliable electricity.

Approximately 90.0% of Itaipu's electricity production is exported[131] to Brazil at a highly subsidized rate of around $10.0/MWh. This pricing structure stems from the original financing arrangement under which Brazil provided loans to cover Paraguay's capital contribution to the dam's construction (estimated at $20 billion). While Paraguay and Brazil hold equal rights to Itaipu's output, Paraguay consumes only around 15.0% of its allocated share and is therefore required to sell the surplus to Brazil, with roughly 70.0% of the sale price allocated to servicing construction-related debt.

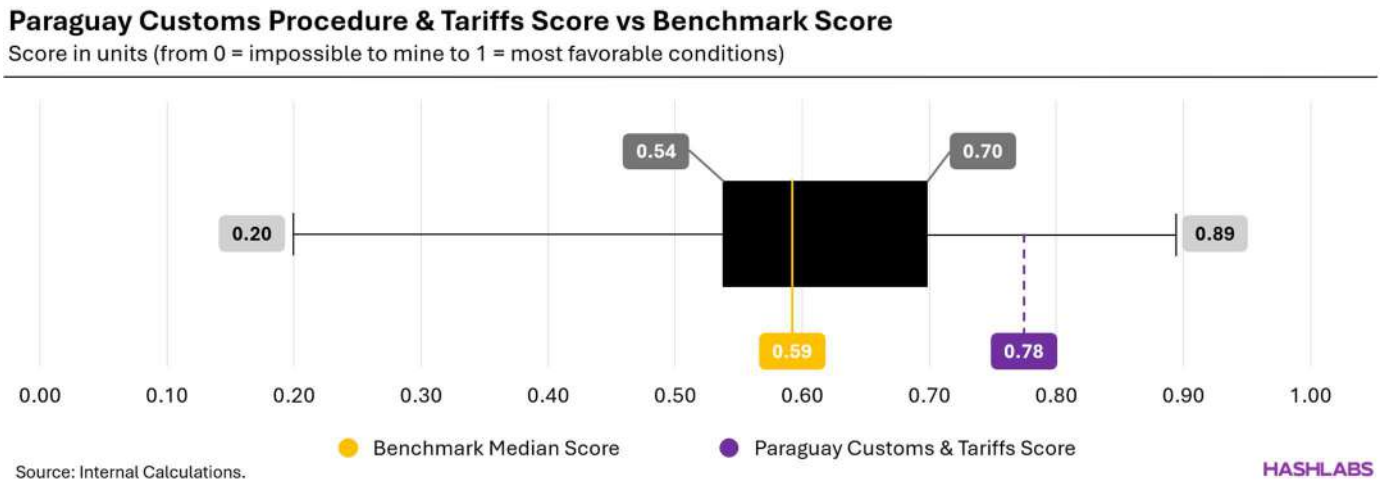
In 2023, Itaipu generated approximately 83.9 TWh, corresponding to an average utilized capacity of 9.6 GW, well below the plant's installed 14.0 GW capacity. This highlights the existence of a significant untapped power surplus. The binding factor for further mining deployment lies in electrical infrastructure availability, particularly the ability to develop transmission and substation capacity to deliver the remaining gigawatts.

Paraguay's power sector is dominated by ANDE, a vertically integrated, state-owned monopoly responsible for electricity generation, transmission, and distribution nationwide. Limited exceptions[132] to this structure include CLYFSA (Compañía de Luz y Fuerza, S.A.), which operates in Villarica, and the Empresas Distribuidoras Menonitas del Chaco Central. Importantly, under current market practices, miners entering into power purchase agreements (PPAs) are typically required to finance and supply their own transformers.

Barriers to entry the energy market are neutral and grid connection can be secured quite rapidly within 5 - 10 months on average. Besides miners have access to electricity costs that should exceed the industry median with ANDE future tariff upward revision, currently ranging from $42.5/MWh – $55.0/MWh. Chances are that miners integrating AI clusters into their facilities could receive better tariffs than pure play miners.

Customs Procedure & Tariffs

Paraguay tariffs and customs framework rank 3rd out of 18 countries, with a score of 0.78 against the benchmark average of 0.60 and the median of 0.59.



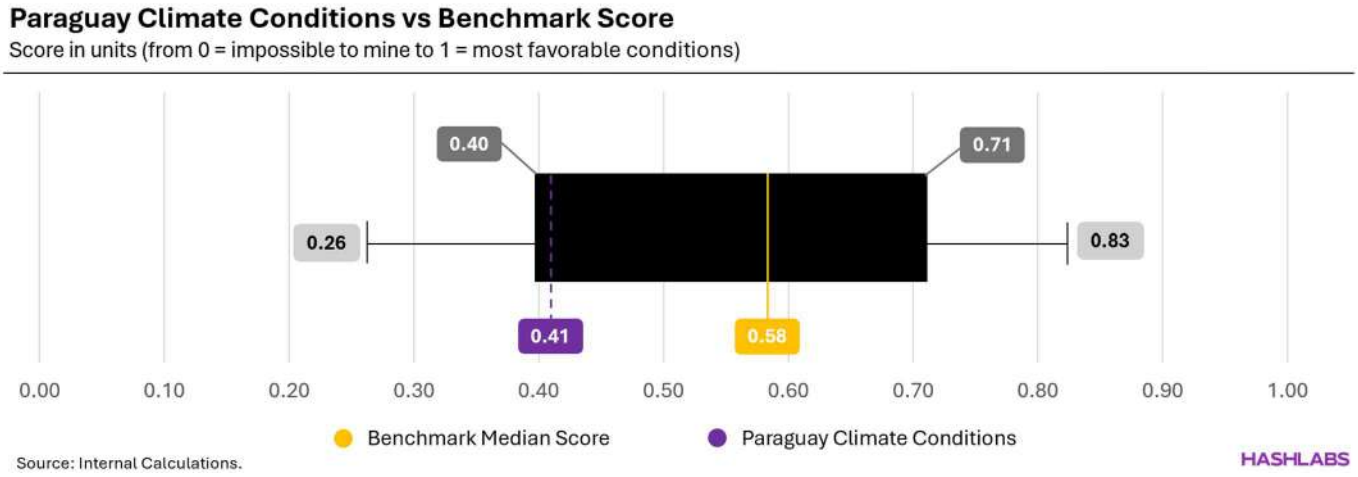
Paraguay applies a 10.0% VAT on imported goods, that can be exempted (see fiscal section) and the importation of mining hardware faces no licensing requirement. Customs tariffs on mining equipment are ranging from 4.0 – 10.0% (depending on product classification, or manufacturing origin) and can be partially

mitigated through mitigation mechanisms such as applying to 60/90 fiscal incentives. However, respondents noted that importation taxes remains volatile in the country.

Although respondents assess that the import process is marginally favorable for ASICs, customs delays on documentation and valuation checks remain prevalent. Customs continue to claim that mining rigs are undervalued by miners and local bureaucracy can slow clearance. Decisively, respondents underlined that the right broker can make a world of difference both in terms of times and rates, and establish close relationships with competent custom agents.

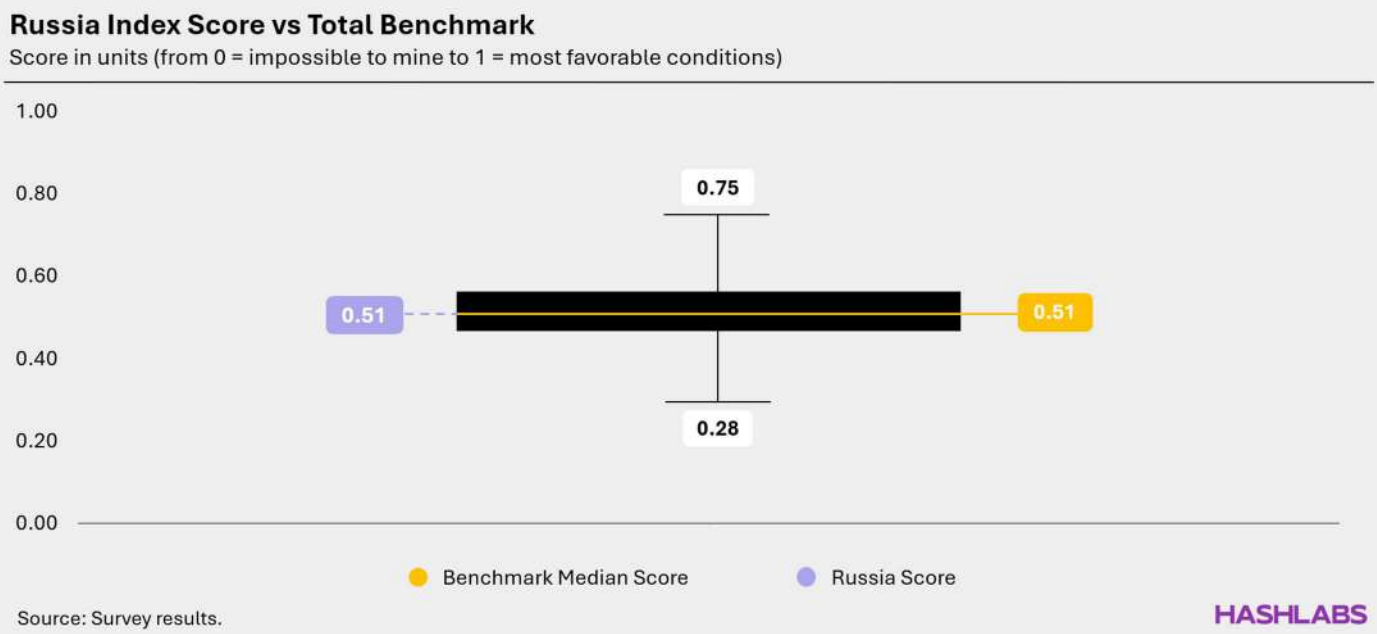
Climate Operating Conditions

Paraguay's climate operating conditions rank 12th out of 18 countries, with a score of 0.41 against the benchmark average of 0.57 and the median of 0.58.



In Paraguay, summer conditions near the Itaipu Dam (November to February) expose miners to high temperatures (18°C–35°C) and elevated humidity levels (~80%), creating challenging conditions for ASICs. Additionally, diurnal temperature variation can be significant from July to September, averaging 28.2°C. As a result, a minimum level of CAPEX is required to establish robust and reliable infrastructure capable of running mining sustainably.

Russia



Russia neutral scores at 0.51 depicts an overall neutral environment to mine despite recent enforcement of seasonal bans. What can be named a preliminary framework has been adopted in 2024 and should welcome additional advances to better regulate the sector. Still, electricity costs have increased due to the mining appeal and growing share in the country, making off-grid farms the most viable solutions as new on-grid permits tend to lock in the $55.0 - $65.0/MWh range, eroding mining margins. Exempt from tariffs but subject to VAT miners can use mitigation mechanism to purchase hardware at a lower cost, but the process is heavily overseen as FSB is granting imports license for ASICs. Furthermore, zoning and environmental restrictions are moderately significant on data center buildouts and neutral on land availability. Despite high humidity, climate conditions are favorable with manageable temperatures and moderate diurnal spread.

TLDR Legal Framework

- Current legal environment is favorable.
- Future regulatory framework is expected to become unfavorable
- Since 2024, the government has actively engaged in regulating the industry, enforcing multiple bans.

TLDR Fiscal Framework

- Neutral tax regime but inability to shift the profit center abroad.
- No subsidies but fiscal incentives for miners in special economic zones in remote north regions.
- There is no electricity tax.
- High level of constraint to avoid or mitigate taxes.
- Participants expects guidance on how to use crypto in international trades and for domestic transactions, clearing current opacity.

TLDR Permits & Licensing Regime

- An operating license is required and is delivered in less than 3 months.
- Construction permits are secured within 3 - 12 months depending on the location.
- Environmental impact assessment process is neutrally restrictive on data center developments.
- Water-use permit requirements are low on operations.
- Emissions, heat and noise compliance level is moderately significant for mining operations.
- Zoning restrictions have neutral impact on land availability for data center development.

TLDR Energy Regulation & Grid Access

- Moderate level of barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times are locked on average in 12 months.
- Electricity costs are above the median ($55.0 - $65.0/MWh), off-grid facilities are below $35.0/MWh.
- Unfavorable status compared to other national grid participants.
- Curtailment is used by miners to mitigate off peak hours exposure.

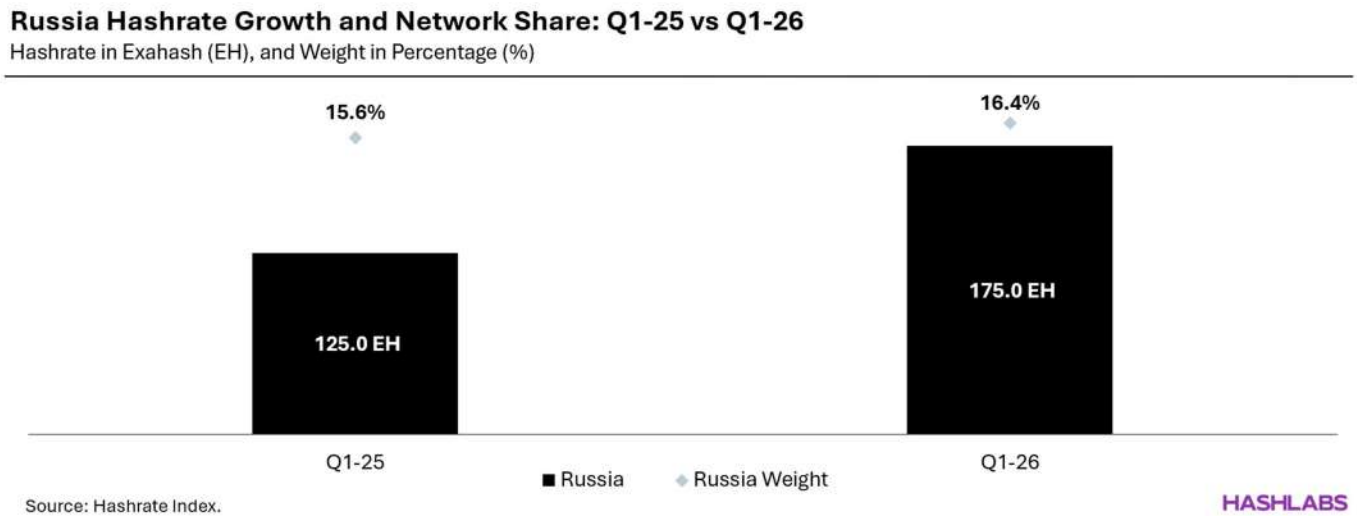
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 22.0% VAT.
- ASIC imports require a license and are not exposed to any tariff (excluding VAT).
- Import procedures are neutral for ASICs and slightly favorable for electrical infrastructure.
- Electrical equipment lead times moderately affected mining energization timelines (2 - 4 months).
- Administrative mitigation efforts are slightly effective to accelerate deliveries or avoid VAT.

TLDR Climate Operating Conditions - Murmansk

- Favorable temperatures level in winter but slightly unfavorable in summer (>30°C).
- Significant diurnal temperatures spread in summer (4°C to 33°C).
- Highly favorable humidity level 65.0%.

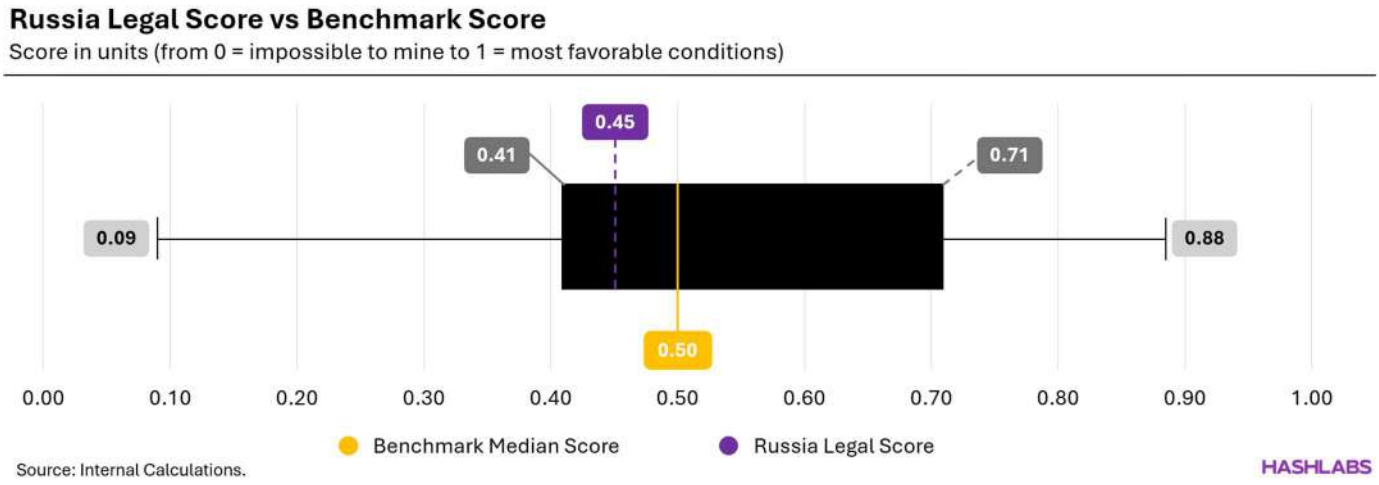
Russia Footprint



In 2024, Russia opacity started to wind down as a law officially legalized mining while the country maintained a prominent share of the hashrate behind the U.S. and rivaling with China. In one year, hashrate gained 50.0 EH weighting now 16.4% of bitcoin network security. Although seasonal bans were recently enforced this upward trend should pursue in the near to mid-term.

Legal Framework

Russia's legal framework ranks 13th out of 18 countries, with a score of 0.45 against the benchmark average of 0.54 and the median of 0.50.



Discussions[133] around a regulatory framework for mining began as early as 2017, initially focusing on registration requirements as the first industrial-scale miners connected to the grid. However, it took nearly 7 years for a formal mining framework to be enacted, providing miners with a preliminary legal status. Under this framework[134], industrial miners consuming more than 6.0 MWh per month are required to register with authorities, and foreign entities are prohibited from mining within the country.

Shortly after the framework's introduction, authorities imposed abrupt regional restrictions, banning[135] mining across 10 regions and implementing seasonal suspensions in 3 others, including Irkutsk, one of Russia's largest mining hubs. In 2025, the Ministry of Energy introduced a centralized mining registry[136] to

improve transparency around equipment deployment and electricity consumption, following reports[137] that only 30.0% of miners had registered with the Federal Tax Service, outlining the prevalence of underground activity.

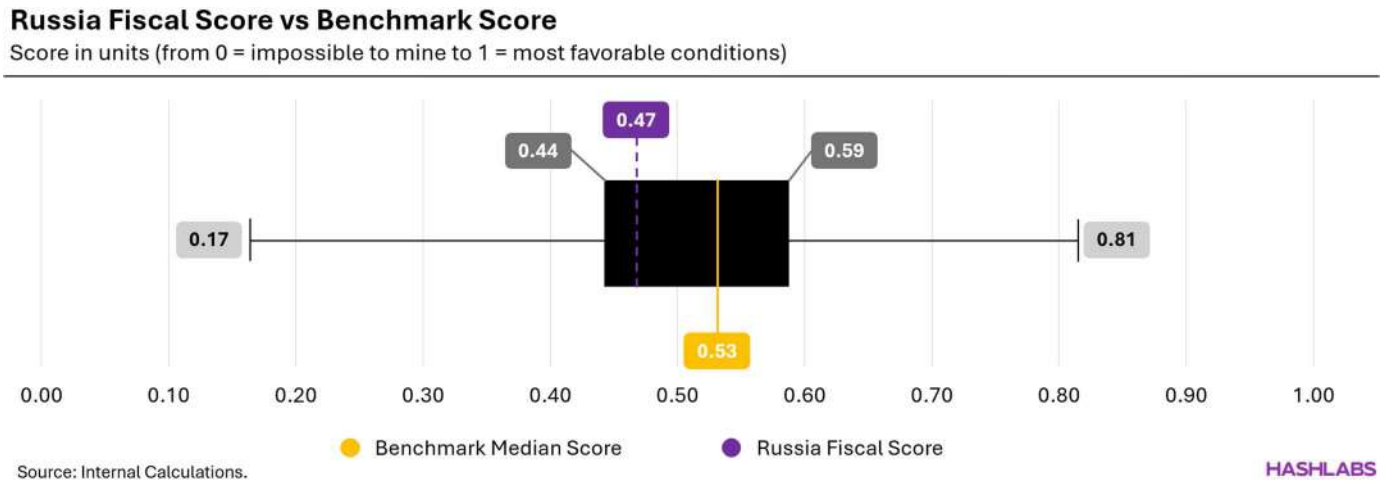
In parallel, additional bans were announced[138] in regions citing grid stress, notably southern Buryatia and the entirety of Zabaykalsky Krai. Regulatory pressure further intensified with the adoption of legislation imposing severe penalties for illegal mining, ranging from 2 years of forced labor of up to prison sentences of five years, depending on the scale of mining farms.

Despite frequent policy reversals and regional prohibitions, the federal government pursues an intent to formalize and institutionalize the sector through enhanced transparency and compliance mechanisms with mandatory monthly reporting to tax authorities. Overall, respondents view the current framework as favorable, with expectations that current environment could worsen.

Bill	Description
Plan for Mining Regulation - 2017	Government starts working on mining regulation.
Regulatory Framework - 2024	**Imposed registration with the Ministry of Digital Development to engage in mining**, while those who are not registered can only operate mining rigs if they do not exceed energy consumption limits (< 6.0/MWh per month) The law also **prohibits foreign entities from mining in Russia** and allows the government to restrict mining in certain regions.
First Region Bans - 2024	**Mining ban in 10 regions** for 6 years to prevent energy blackouts. **Three Siberian regions face seasonal ban** with shutdown in winter due to higher power demand.
Mining Registry - 2025	Russia's Ministry of Energy created a **registry for identifying mining equipment** and regulate mining operations.
Second Region Bans - 2025	**Seasonal ban** into Buryatia and Zabaykalsky Krai will be **indefinitely outlawed due to grid issues.**
Penalties Illegal Farms - 2025	Russia has proposed a **new draft bill seeking to crack down on unregistered miners** by imposing penalties and forced labor on illegal mining activity, as most miners still haven't joined the tax register.

Fiscal Framework

Russia's fiscal framework ranks 11th out of 18 countries, with a score of 0.47 against the benchmark average of 0.52 and the median of 0.53.



In Russia moving the profit center abroad is forbidden in a country where foreign entities are unallowed to mine. The taxation environment is neutral to miners, where taxation authorities recently enforced a first law regulating the sector in 2024 to provide greater clarity - clarifying that VAT is exempted[139] on mining revenues and enforced mandatory reporting. On the reverse, the Federal Tax Service stated[140] that mining is not a VAT-taxable activity, which prevents miners from reclaiming or deducting VAT on purchased equipment.

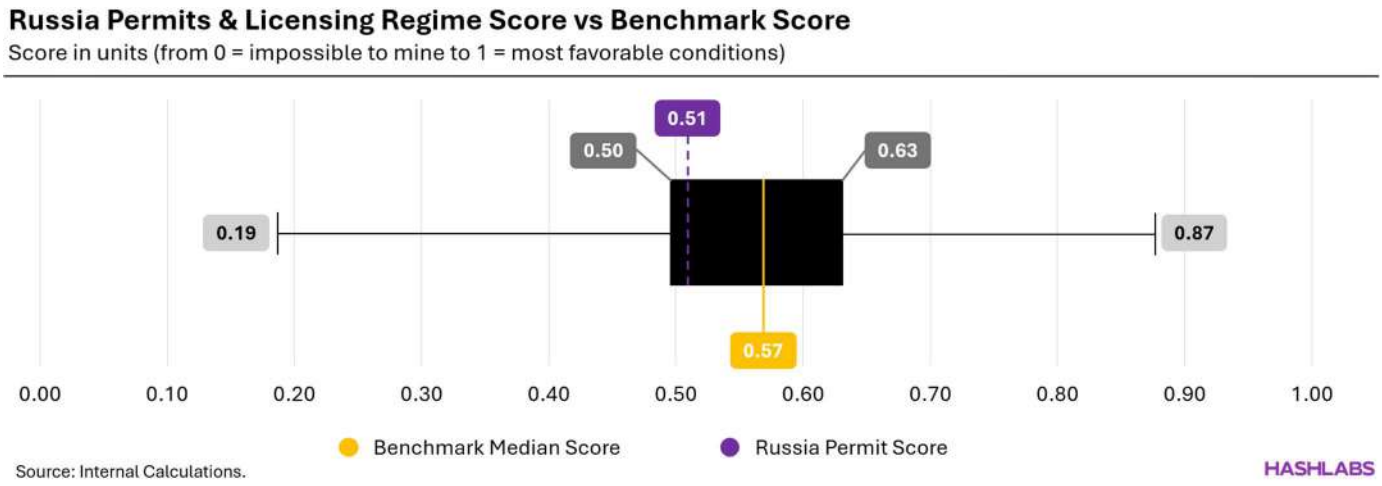
Regarding other tax or incentives, the sector is rather prohibiting via bans than subsidizing the sector but no electricity tax has been enforced. However, special economic zones exist in remote north regions where miners could benefit from fiscal advantages. The level of constraint to alleviate the tax burden is high, and respondents expect a new guidance on use of crypto for international trades and domestic transactions.

Beyond VAT treatment, the sector is not exposed to any electricity tax, but also receives no subsidies or fiscal incentives, with policy measures relying more heavily on restrictions and regional bans than on economic support. Respondents characterize the ability to mitigate the overall tax burden as moderate. Opacity remains on legal methods of selling mined' bitcoins as there is no explicit prohibitions on crypto transactions but not expressly permitted either.

Program Name	Description
Crypto Tax Law - 2024	Legislation **exempts crypto miners from VAT on mined coins**. Miner must report information about the provision of mining services to local authorities.
VAT Clarification - 2025	Russia's Federal Tax Service (FTS) **clarified that VAT on leased crypto mining equipment is not deductible** on 9 April 2025.

Permits & Licensing Regime

Russia's permit & licensing framework ranks 13th out of 18 countries, with a score of 0.51 against the benchmark average of 0.55 and the median of 0.57.



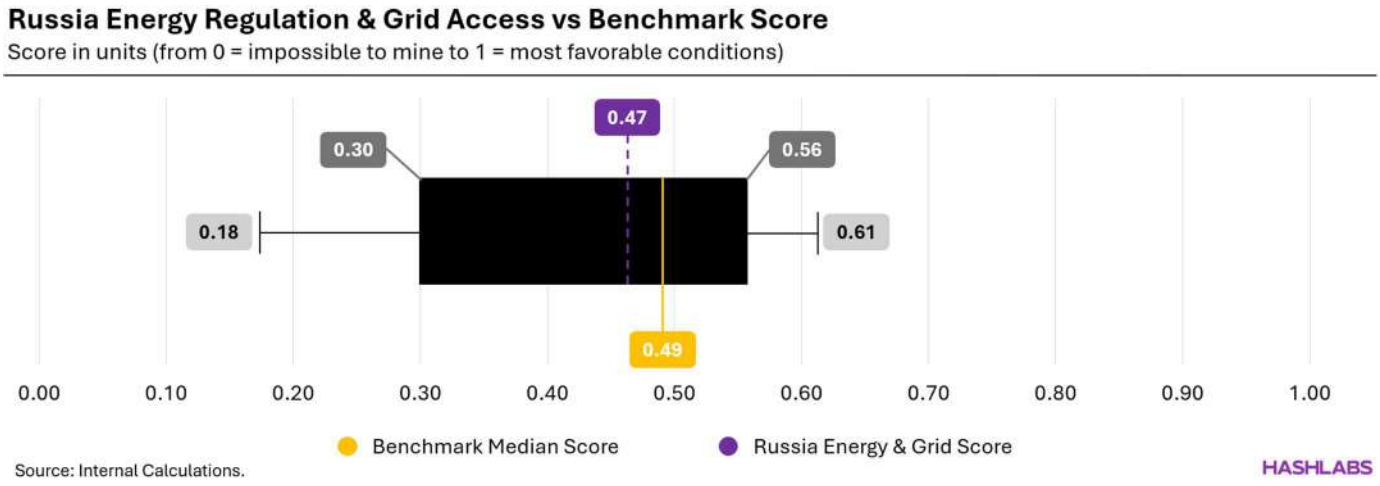
In Russia, retail miners consuming less than 6.0 MWh per month may operate without a license. Once activity exceeds this threshold, mandatory registration, reporting, and approval are required, a framework formally enforced since 2024. Industrial-scale miners must report to both tax and federal authorities, including disclosures of mined volumes and associated wallet id.

In 2025, authorities introduced an additional hardware registration requirement, aimed at tracking regional electricity consumption and improving transparency into the true scale of the mining sector. This measure followed government statements indicating that only around 30.0% of miners had obtained legal status, with the majority of activity still occurring in the informal or underground economy.

Emissions, heat, and noise restrictions are moderately significant on data center operations, while zooning regulation on land availability is more neutral. On average, construction permits are secured in 6 months but range from 3 to 12 months depending on mining farm size and location.

Energy Regulation and Grid Access

Russia energy regulation and grid access rank 10th out of 18 countries, with a score of 0.47 against the benchmark average of 0.44 and the median of 0.49.



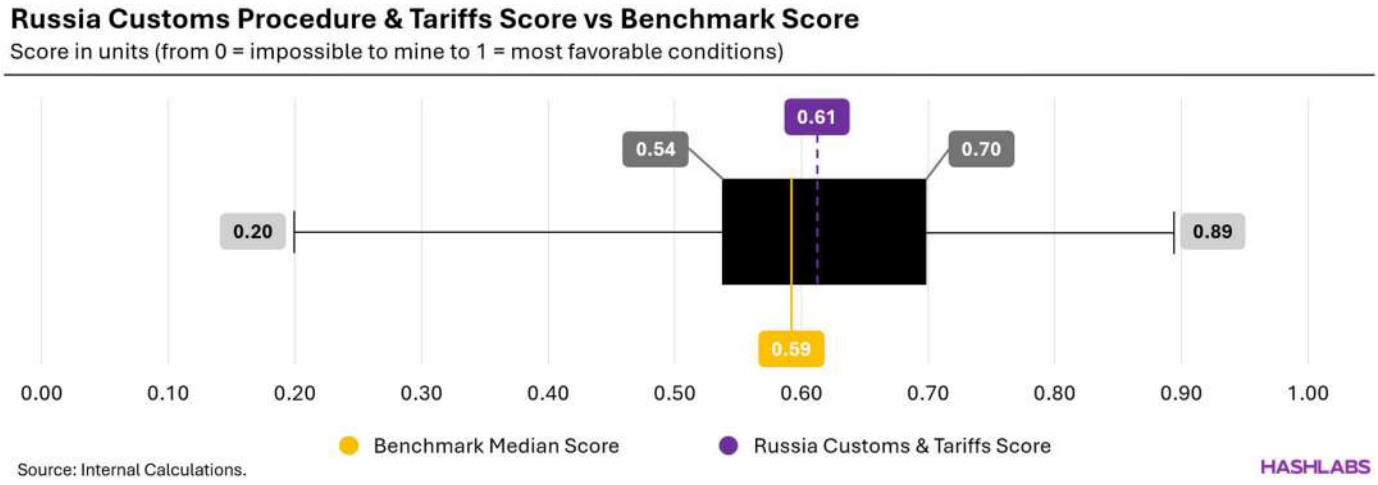
Russia's electricity generation relies on a diversified mix[141] dominated by natural gas (44.0%), followed by nuclear (18.7%), coal (18.1%), and hydropower (17.4%). Since 2017, mining activity has gravitated toward regions with substantial legacy industrial power surpluses[142], particularly in Siberia, where underutilized hydro and gas infrastructure created attractive conditions for large mining loads.

Historically, miners clustered in southern and eastern Siberia, close to hydropower assets. However, successive regional ban and power rates hikes lead to a redistribution of operations toward northern and western Siberia, where oil and gas fields dominate along with couple of hydropower plants. This shift accelerated the rise of off-grid mining, leveraging stranded gas at sub-$35.0/MWh costs, in contrast with on-grid tariffs ($55.0/MWh - $65.0/MWh).

Barriers to entry the grid or energy market are moderate and could further tighten as AI data centers compete for incremental megawatts, with proposed legislation potentially prioritizing AI loads over mining. Mining facilities interconnection lead time remains short, averaging 12 months. Curtailment is widely used in certain regions to avoid off-peak hours.

Customs Procedure & Tariffs

Russia tariffs and customs framework rank 8th out of 18 countries, with a score of 0.61 against the benchmark average of 0.60 and the median of 0.59.

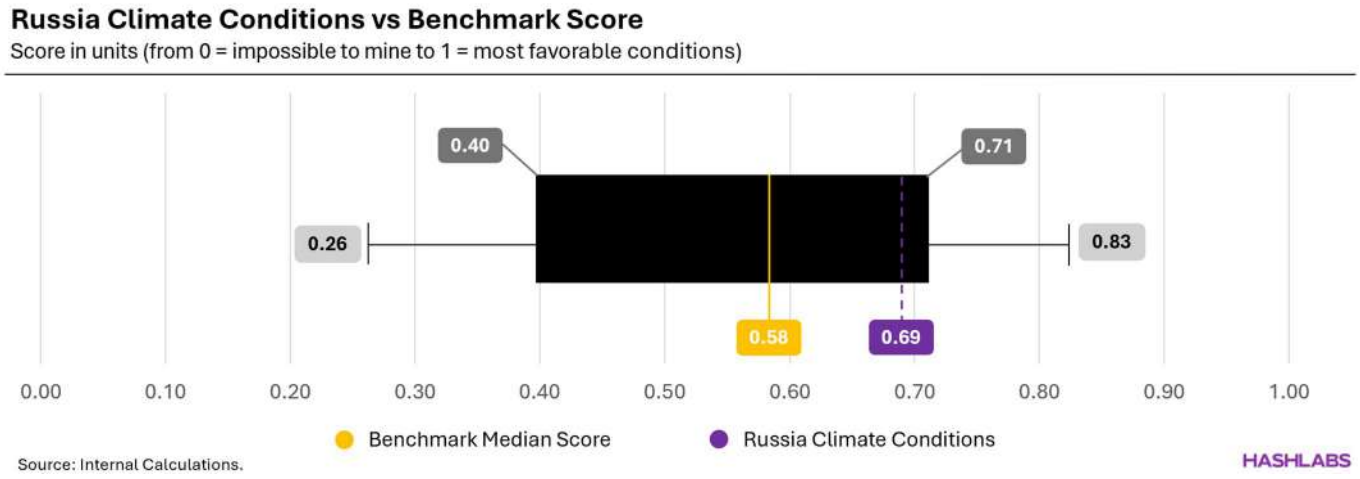


As explained, VAT on ASICs in Russia is ineligible to refund, meaning that mining hardware imports are subject to the standard 22.0% VAT rate - that recently increased from 20.0%. The importation of mining equipment requires a license, approved by the Federal Security Service (FSB). While this adds a layer of administrative oversight, respondents characterize the import process as neutral in practice, with moderate impact on project energization timelines attributable to customs or licensing delays (2 – 4 months).

Importantly, no customs tariffs are applied to mining equipment other than VAT, and existing mitigation mechanisms have proven slightly effective to cut delays or reduce VAT exposure. Among those mechanisms miners import machines from Belarus to optimize some import fees.

Climate Operating Conditions

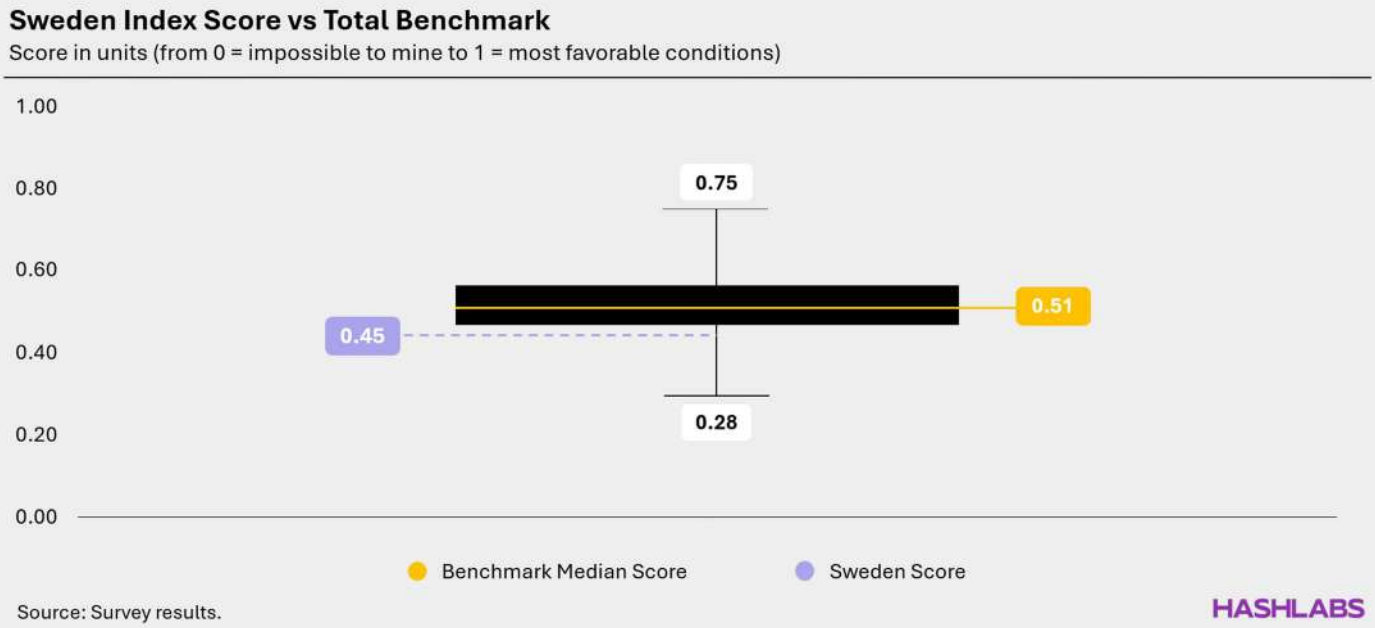
Russia's climate operating conditions rank 6th out of 18 countries, with a score of 0.69 against the benchmark average of 0.57 and the median of 0.58.



Russia's vast geography complicates countrywide climate assessments, but mining activity is concentrated in three key regions: the northwest (Murmansk, Karelia), central north (Norilsk, Yamalo-Nenets), and the south (Krasnoyarsk, Irkutsk).

Focusing on the northwest, Murmansk experiences high humidity, averaging 92% and peaking at 99% during the year, which can pose challenges if not properly managed. Winter temperatures are favorable for hydro-cooled machines (-22°C to 1°C), while summer remains mild (3°C–24°C) with minimal diurnal variation, supporting stable operational conditions for mining infrastructure.

Sweden



Sweden scores 0.45, reflecting a slightly unfavorable environment marked by a growing unpopularity of mining in the country. Political pressures, including proposals by the Minister of Finance to ban mining operations in the EU and revisions of electricity taxes on data centers (~$39.9/MWh), threaten mining profitability despite access to relatively low electricity costs ($35.0 – $42.5/MWh). The permitting framework and zoning regulations remain largely neutral, with modest constraints on data center development and timely permit delivery when due diligence is observed. Grid connections can experience extended lead times (12–18 months), and exposure to VAT - with limited ability to relocate profit centers - can impose additional burdens, though available mitigation mechanisms are generally effective. These challenges are partially offset by favorable climate conditions, including cold temperatures and stable climates, despite high humidity.

TLDR Legal Framework

- Current legal environment is unfavorable for miners.
- Future regulatory framework is expected to remain unfavorable.

TLDR Fiscal Framework

- Highly unfavorable tax regime, with inability to move the profit center to another country.
- No subsidies or fiscal incentives available for miners or data centers.
- Significant electricity tax at SEK 360.0 per MWh (equivalent to $39.9/MWh).
- High level of constraint to avoid or mitigate taxes.
- Mining is now excluded for being a VAT-eligible industry, and can’t get VAT back from purchases.

TLDR Permits & Licensing Regime

- No operating license is required.

- Construction permits are secured within 3 - 6 months.
- Environmental and water permitting requirements are neutrally burdensome for data center construction.
- Emissions, heat and noise compliance level is moderately significant for mining operations.
- Zoning restrictions neutrally impact land availability for data center development.

TLDR Energy Regulation & Grid Access

- Neutral barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times range from 12 - 18 months.
- Electricity costs are slightly lower than the median ($35.0 – $42.5/MWh).
- Miners grid status is neutral compared to other grid participants and have access to demand response program.

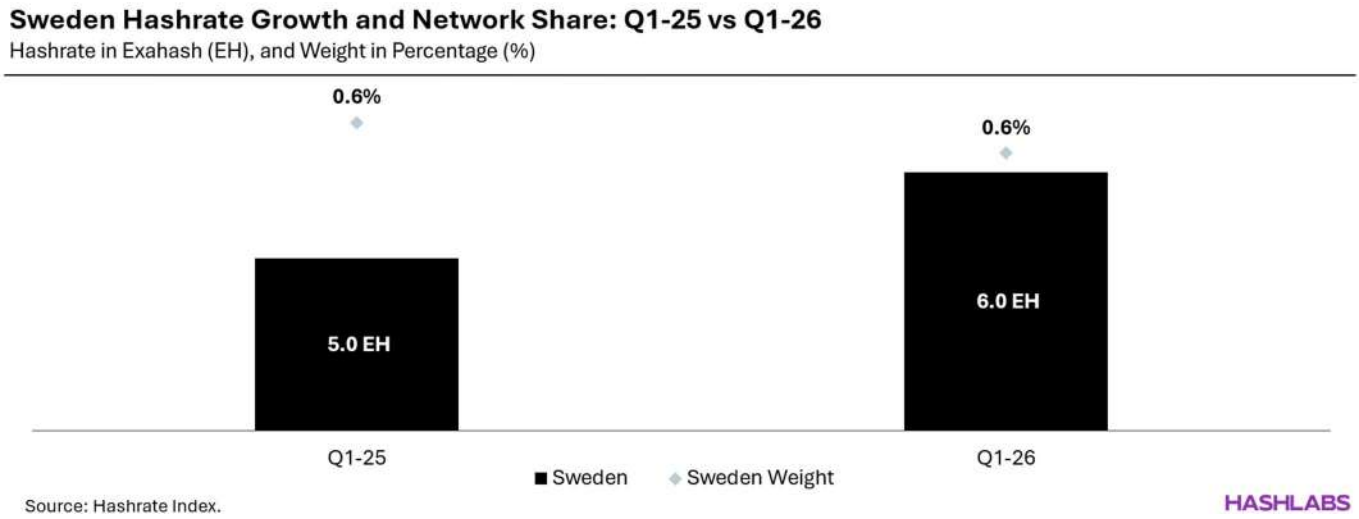
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 25.0% VAT rate.
- ASIC imports do not require a license and are not exposed to any tariff (excluding VAT).
- Import procedures are neutral for ASICs and favorable for electrical infrastructure.
- Electrical equipment lead times have slightly affected mining energization timelines (2 – 3 months).
- Mitigation mechanisms on import constraints are effective to accelerate deliveries or avoid VAT.

TLDR Climate Operating Conditions - Västerbotten

- Highly favorable temperatures level in winter and summer.
- Modest diurnal temperatures spread (21.0°C).
- Unfavorable humidity level 89.0%.

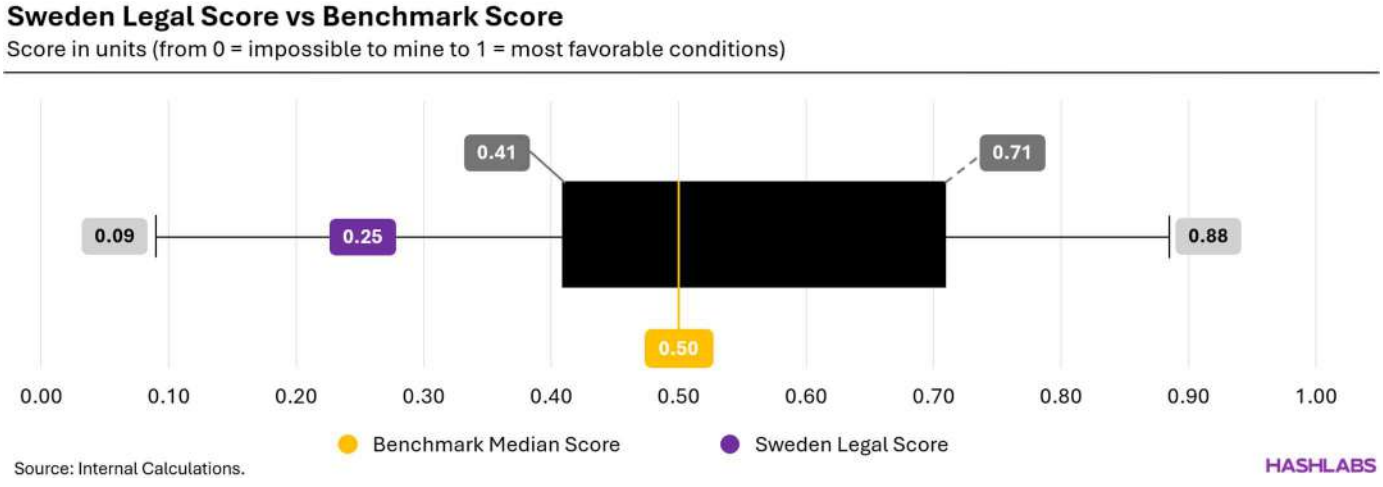
Sweden Footprint



Sweden network hashrate stagnated as hashrate only mounts from 5.0 EH in Q1-2025 to 6.0 EH in Q1-2026. This trend is highlighted by the hostile regulatory environments set by the multiple tax laws enacted by the parliament to wipe out mining data centers from the country. As a result a stagnation if not reduction of the hashrate could be anticipated in the mid-term if Sweden decide to prioritize AI data center in a shifting European environment for data centers.

Legal Framework

Sweden's legal framework ranks 17th out of 18 countries, with a score of 0.25 against the benchmark average of 0.54 and the median of 0.50.



Similarly to its Nordic peers, Sweden is a politically stable country. In 2017 to attract the data center industry they drastically cut the electricity tax setting a positive regulatory framework for bitcoin miners. This tax cut was also followed by Swedish electricity producers that also set up initiatives[143] to attract new data centers.

However, things turned badly post-Ukrainian invasion in 2022, when electricity prices skyrocketed and the financial budget adopted[144] a massive tax hike for data centers – see details in the fiscal section - breaking with previous favorable conditions. Those two catalysts shaken the industry to its core and were further

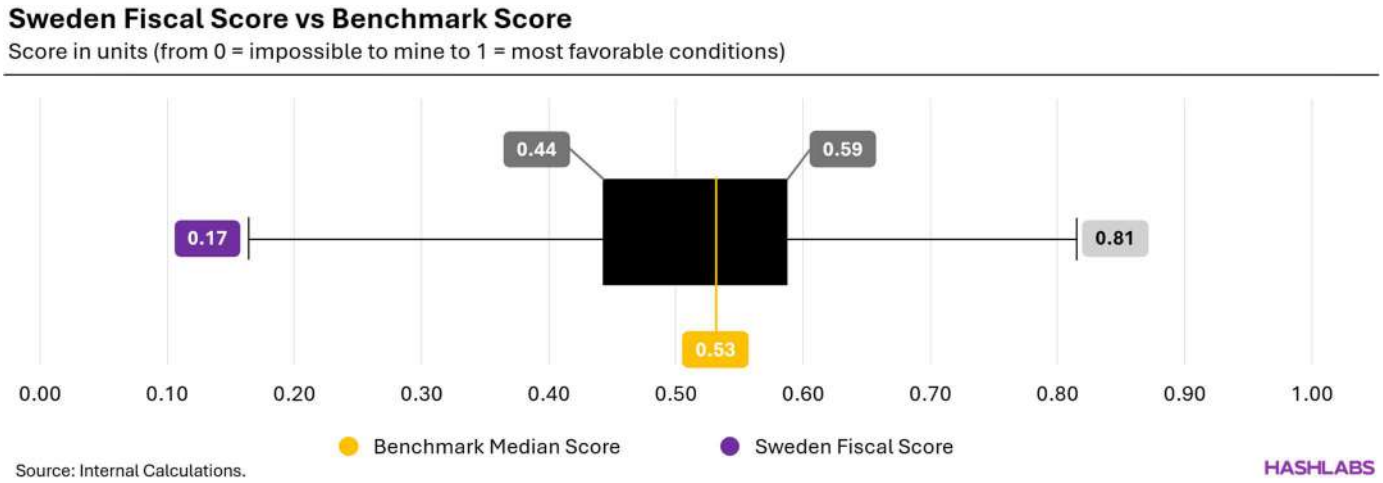
strengthened by vocal hostility against the bitcoin mining industry when the ministry of Finance pushed for a ban[145] on bitcoin mining in the European Union.

Hence, the current controversy[146] of mining in the country coupled with the electricity tax[147] makes it a hostile place to mine sustainably. Other notable events include the change of the corporate tax rate and a law[148] for data centers requiring consistent reporting on their energy usage in an effort to improve the energy efficiency.

Bill	Description
Law 2025:570 - 2025	**Mandatory reporting on data centers** energy usage.

Fiscal Framework

Sweden's fiscal framework ranks 18th out of 18 countries, with a score of 0.17 against the benchmark average of 0.52 and the median of 0.53.



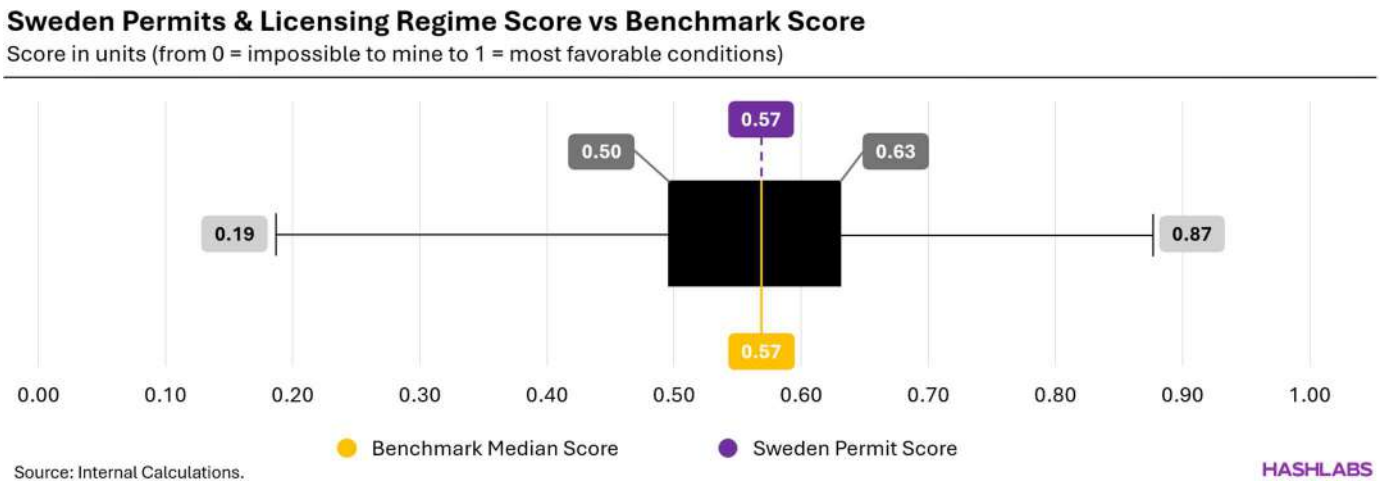
Despite political stability, the fiscal environment have been particularly hostile for Bitcoin miners. In an initial attempt to attract cloud and data center industries reducing[149] the electricity tax from $21.5/MWh to $0.6/MWh, in 2023 the government suddenly raised the tax at $39.9/MWh (SEK 360.0/MWh). This move severely affected the industry forcing another mining exodus.

One year later, additional fiscal headwinds exacerbated this pressure on Swedish miners, as tax authorities retroactively challenged VAT treatments applied to imported mining equipment, arguing that many miners had relied on misclassified filings for activities deemed ineligible for VAT exemptions. In total 21 companies were requested to refund the unpaid VAT totaling $90 million. Sweden corporate income tax stands at 20.6%.

Program Name	Description
Electricity Tax Cut - 2017	**Electricity tax cut for data centers** from SEK 194.0/MWh ($21.5/MWh) to SEK 5.0/MWh ($0.6/MWh).
Electricity Tax Revision - 2022	**Electricity tax for data centers is revised** at SEK 360.0 per MWh ($39.9/MWh).

Permits & Licensing Regime

Sweden's permit & licensing framework ranks 10th out of 18 countries, with a score of 0.57 against the benchmark average of 0.55 and the median of 0.57.

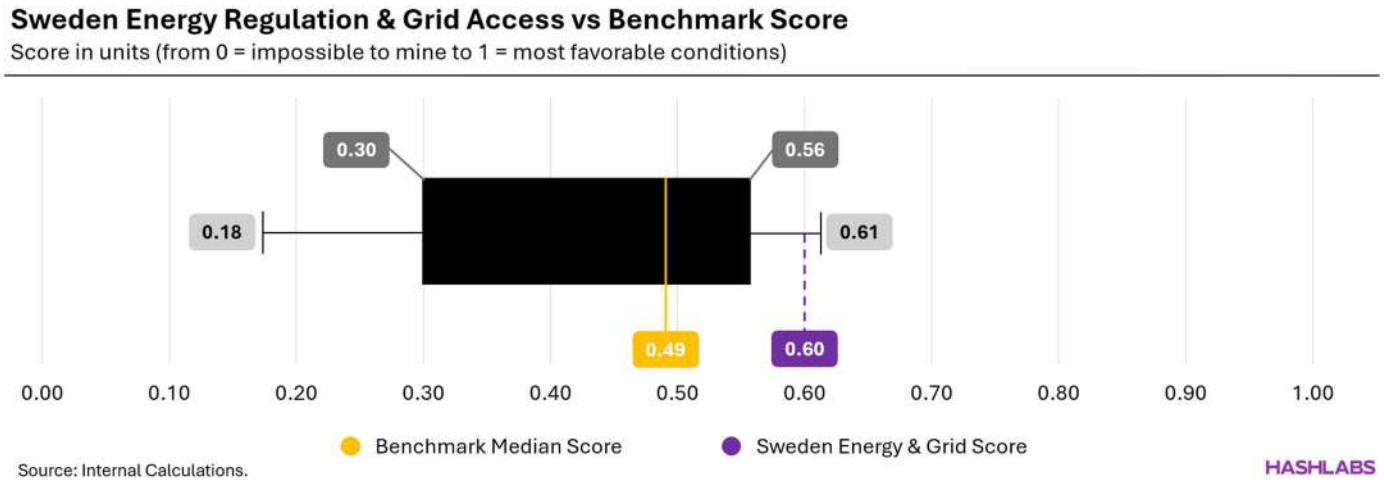


After strongly incentivizing the data center industry it is unsurprising that permits and licensing requirements remain relatively streamlined for mining operations.

There is no specific mining license required to operate, and construction permits can generally be locked within reasonable timeframes. Environmental impact assessments and water-related permits typically do not present material obstacles for developing mining projects. Similarly, zoning compliance has a neutral effect on land availability, while emissions, heat and noise regulations impose moderate constraints on operations.

Energy Regulation and Grid Access

Sweden energy regulation and grid access rank 2nd out of 18 countries, with a score of 0.60 against the benchmark average of 0.44 and the median of 0.49.



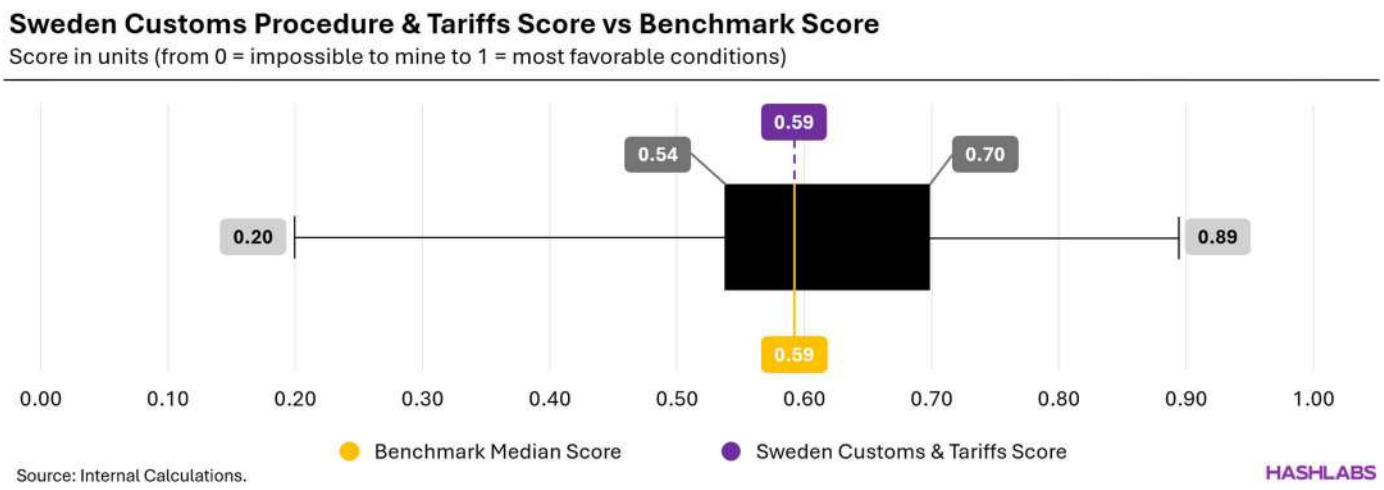
Before data center became unpopular, Sweden was the EU mining hub thanks to the cheap power provided by the stranded hydropower in the North. Miners were largely concentrated in the northern part of the country in low-density population offering access to an abundant energy in a country with 16.4 GW of

hydropower infrastructure. The lacking transmission capacity from North to the south creates an isolated hub hard and costly to unify guarantying miners to a long-term energy availability.

With neutral barriers to entry in the energy market securing a grid connection is taking time, on average one should expect 12 to 18 months. Abundant hydro power allows affordable power costs ranging from $35.0 - $42.5/MWh (excluding the electricity tax rate). Besides, miners can participate to demand response programs and lower their average all-in electricity price by about 25.0%.

Customs Procedure & Tariffs

Sweden tariffs and customs framework rank 9th out of 18 countries, with a score of 0.59 against the benchmark average of 0.60 and the median of 0.59.



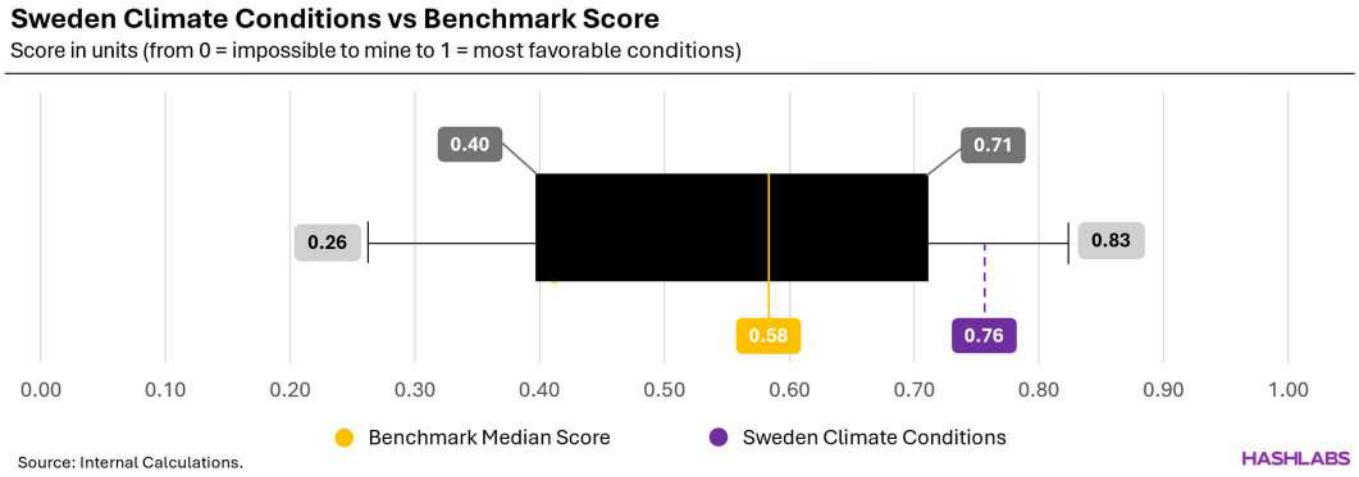
Swedish VAT rate is 25.0%, affecting imported equipments and machines, including ASICs. As explained earlier, mining is not considered anymore as an eligible-VAT industry which highly inflate ASIC prices. However it exists effective mitigation mechanisms to avoid the VAT burden such as hosting miners instead of self-mining passing the VAT through the customer.

Import process is relatively neutral with no import license required. Electrical infrastructure process is favorable, nevertheless energization timelines have been slightly affected by electrical equipment lead times.

As an EU member, Sweden applies the EU Common Customs Tariff: for most computer-hardware-type HS codes used for ASIC miners (e.g., under 8471), the customs duty is 0.0%. No particular constraint exists in the ASIC import process, and electrical infrastructure process is deemed favorable.

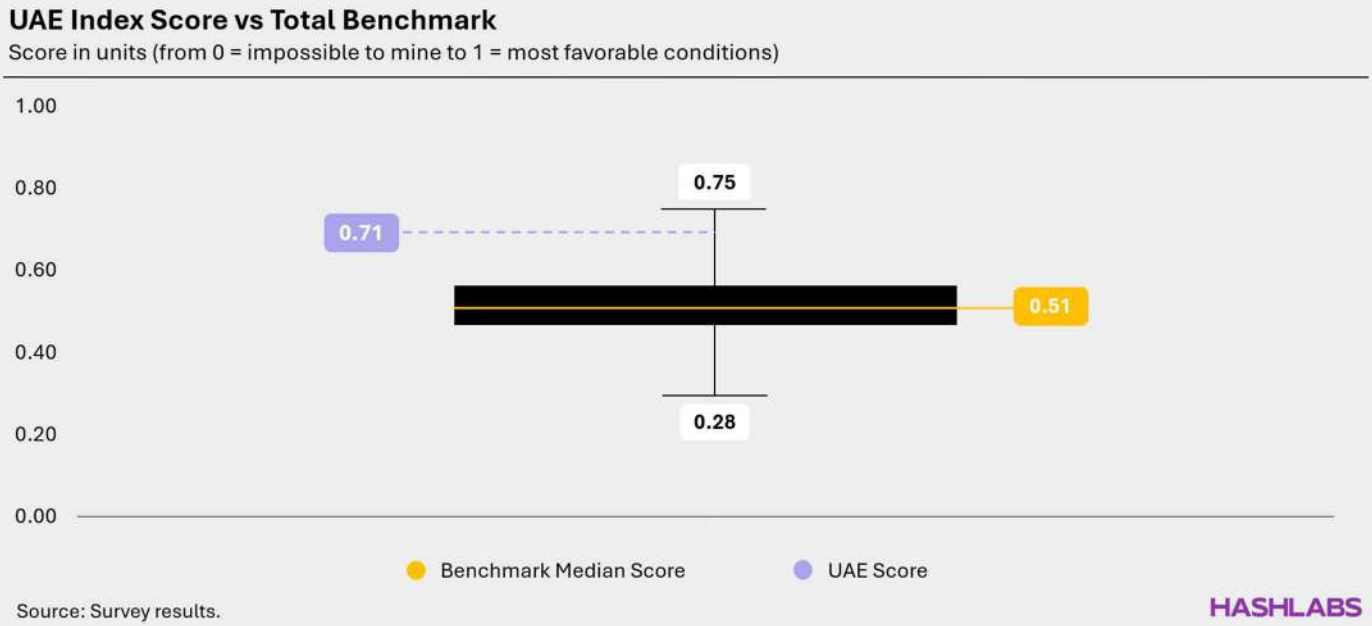
Climate Operating Conditions

Sweden's climate operating conditions rank 4th out of 18 countries, with a score of 0.76 against the benchmark average of 0.57 and the median of 0.58.



In the Nordics, despite high humidity level (89.0% in Sweden) countries boast highly favorable climate conditions to mine specifically for hydro miners benefiting from negative temperatures (-18°C to 4°C in Sweden during winter). Sweden temperature spread between day and night is modest (21.0°C on average) and favorable to maintain stable cooling conditions for machines.

United Arab Emirates (UAE)



The United Arab Emirates (UAE) scores 0.71, reflecting a highly favorable environment for establishing bitcoin mining operations. Mining is embedded within the country's broader technology and economic strategy, with the government directly involved through ownership of mining data centers and the development of tailored regulatory and fiscal frameworks within free zones. As a result, miners can benefit from exemptions from several taxes, including corporate income tax, and face only a 5.0% VAT on imports, with no additional tariffs. Electricity pricing varies meaningfully, ranging from $35.0/MWh to $65.0/MWh, while barriers to energy access and grid capacity remain moderate. However, unfavorable climate conditions - characterized by high dust exposure and elevated ambient temperatures - may require additional CAPEX to protect mining equipment.

TLDR Legal Framework

- Current legal environment is highly favorable for miners.
- Future regulatory framework is expected to remain highly favorable.
- Mining is not exposed to specific framework, but is legally recognized and strongly supported as depicted by the state ownership of mining activities[150].

TLDR Fiscal Framework

- Highly favorable tax regime and ability to shift the profit center abroad.
- Subsidies or fiscal incentives available for miners or data centers in free zones.
- There is no electricity tax.
- Low level of constraint to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- An operating license is required and can be delivered in less than 3 months.

- Construction permits are secured within less than 3 months but exceeded 12 months in rare cases.
- Environmental and water-permits requirements are not burdensome for data center constructions.
- Emissions, heat and noise compliance level is unsignificant for mining operations.
- Zoning restrictions neutrally impact land availability for data center development.

TLDR Energy Regulation & Grid Access

- Moderate barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times range from 6 - 12 months.
- Mean electricity costs is on par with the median ($42.5/MWh – $47.5/MWh).
- Miners grid status is favorable compared to other participants.
- Flare gas mitigation is a large opportunity for miners in the country.

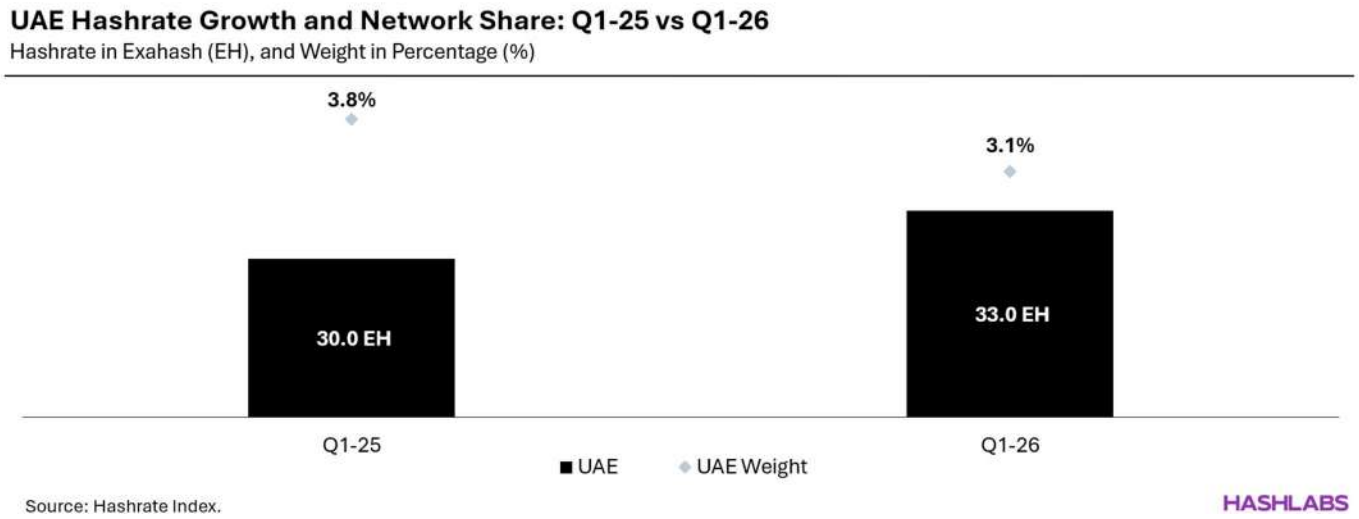
TLDR Customs Procedure & Tariffs

- ASIC imports are subject to 5.0% VAT.
- ASIC imports require a license and are not exposed to any tariff (excluding VAT).
- Import procedures are favorable for ASICs and neutral for electrical infrastructure.
- Electrical equipment lead times have modestly affected mining energization timelines (2 - 4 months).
- Mitigation mechanisms on import constraints are effective to accelerate deliveries or avoid VAT.

TLDR Climate Operating Conditions - Abu Dhabi

- Favorable temperatures level in winter but highly unfavorable in summer (> 40°C).
- Modest diurnal temperatures spread (19.1°C).
- Unfavorable humidity level 40.0% with significant dust exposure.

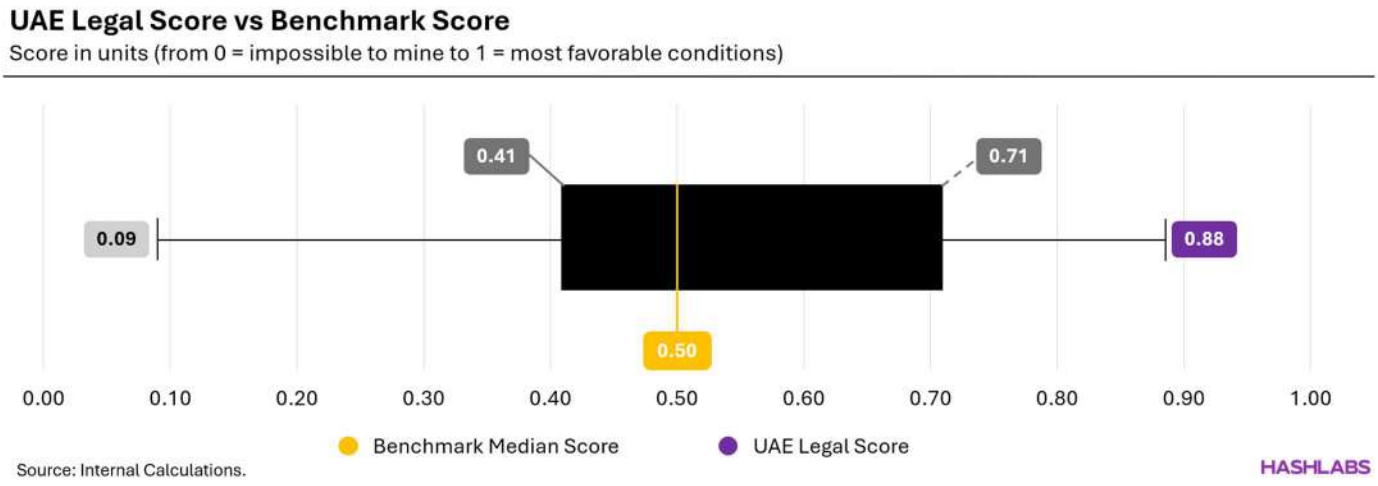
UAE Footprint



In the Middle East, the UAE is close to ceding its dominance to rival Oman, following a modest growth (+10.0%) and the energization of approximately 3.0 EH between Q1 2025 and Q1 2026. However, the hashrate could rebound as the government continues to pursue pro-investment policies that sustain an attractive environment for miners.

Legal Framework

UAE's legal framework ranks 2nd out of 18 countries, with a score of 0.88 against the benchmark average of 0.54 and the median of 0.50



UAE benefits from an excellent access to capital and a politically stable environment and innovative driven approach. Early signs of global crypto adoption materialized in 2018 with the Emirates blockchain strategy 2021[151] to capitalise on blockchain technology and were followed by The UAE's Digital Economy Strategy[152] and 'We the UAE 2031'[153] altogether targeting a deeper penetration of crypto-related contribution into the economy and attract investments into the country.

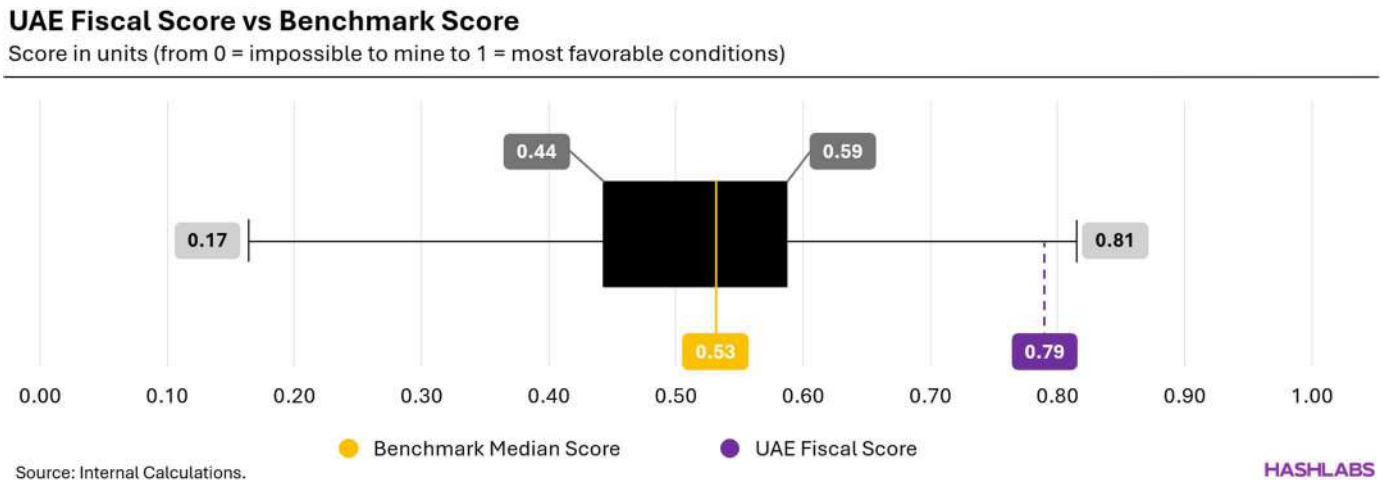
The first regulatory body concerning the crypto industry was the Virtual Asset Regulatory Authority (VARA) established[154] in 2022 it oversees the global digital asset market .

In late 2025, Abu Dhabi's Agriculture and Food Safety Authority (ADAFSA) reaffirmed[155] the ban on cryptocurrency mining across country farms. It aims to protect national energy resources, uphold land-use laws, and prevent unregulated industrial activity.

Bill	Description
VARA - 2022	Virtual Assets Regulatory Authority (VARA) updates regulations, supervises, and oversees virtual assets, and regulates cryptocurrency activity.
Mining Ban on Agricultural Land - 2025	Abu Dhabi's Agriculture and Food Safety Authority (ADAFSA) has reaffirmed a **ban on mining across farms in the emirate**, impose penalties in case of violation (AED 100,000 - $27,000).

Fiscal Framework

UAE's fiscal framework ranks 2nd out of 18 countries, with a score of 0.79 against the benchmark average of 0.52 and the median of 0.53.

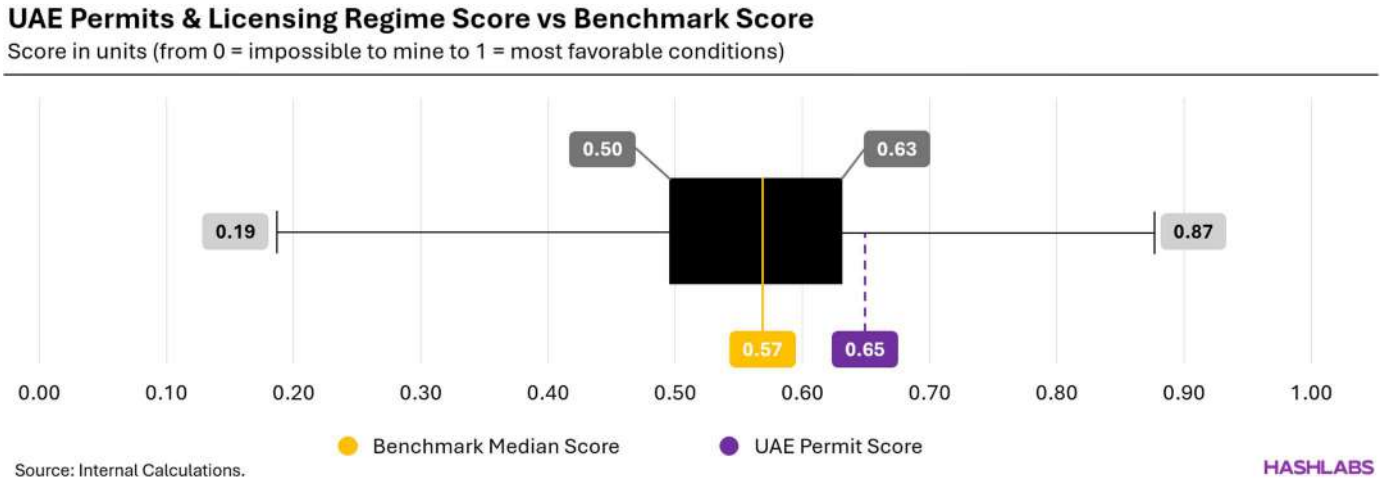


UAE stands as one of the most favorable land in the world from a tax perspective thanks to its free zones like DMCC[156] , ADGM[157] and RAK DAO[158] among a total of 30[159], offer significant advantages such as a zero corporate tax, easy repatriation of profits, and exemptions from import/export duties and VAT.

With subsidized power companies allowing miners to access more affordable power rates. It was the case for agricultural lands – where home/retail mining was dominant and is now banned – the electricity price is $12.0/MWh, explaining the prominent influx of small installation in this zone. The corporate income tax rate is at 9.0% but can be exempted in some free zones.

Permits & Licensing Regime

UAE's permit & licensing framework ranks 4th out of 18 countries, with a score of 0.65 against the benchmark average of 0.55 and the median of 0.57.

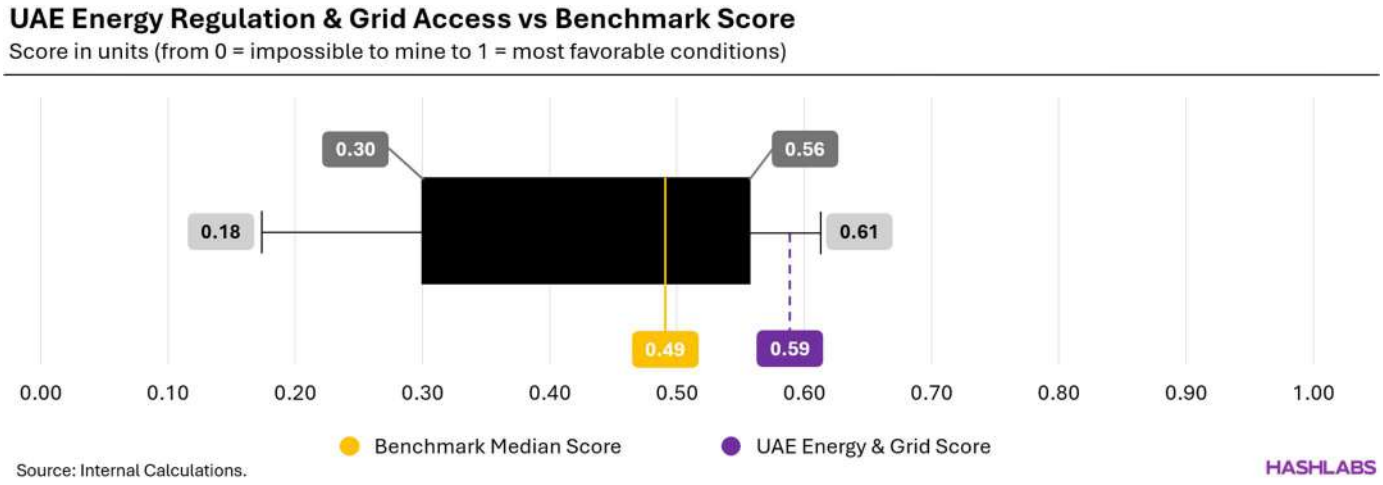


In UAE, there is not a specific license[160] to operate but multiple licenses are eligible such as the "Data Processing" or "IT infrastructure services" this depends on the zone in which you operate.

Construction permits can be secured generally in less than 3 months and over 12 months in worst case scenario. Despite UAE climate, the water-use permits constraints remains low, and the EIA requirements can vary based on locations. Heat, noise, emissions restrictions are unsignificant on operations while zoning restrictions neutrally impact land availability for data center construction.

Energy Regulation and Grid Access

UAE energy regulation and grid access rank 3rd out of 18 countries, with a score of 0.59 against the benchmark average of 0.44 and the median of 0.49.



The UAE's abundance of fossil fuel resources[161] has underpinned its rapid economic development and positioning as a global investment hub. Natural gas dominates the electricity mix, accounting for approximately 71.1% of generation, followed by nuclear power at 19.7%, which was introduced to diversify energy sources and reduce reliance on hydrocarbons. Solar capacity is also expanding, and several mining

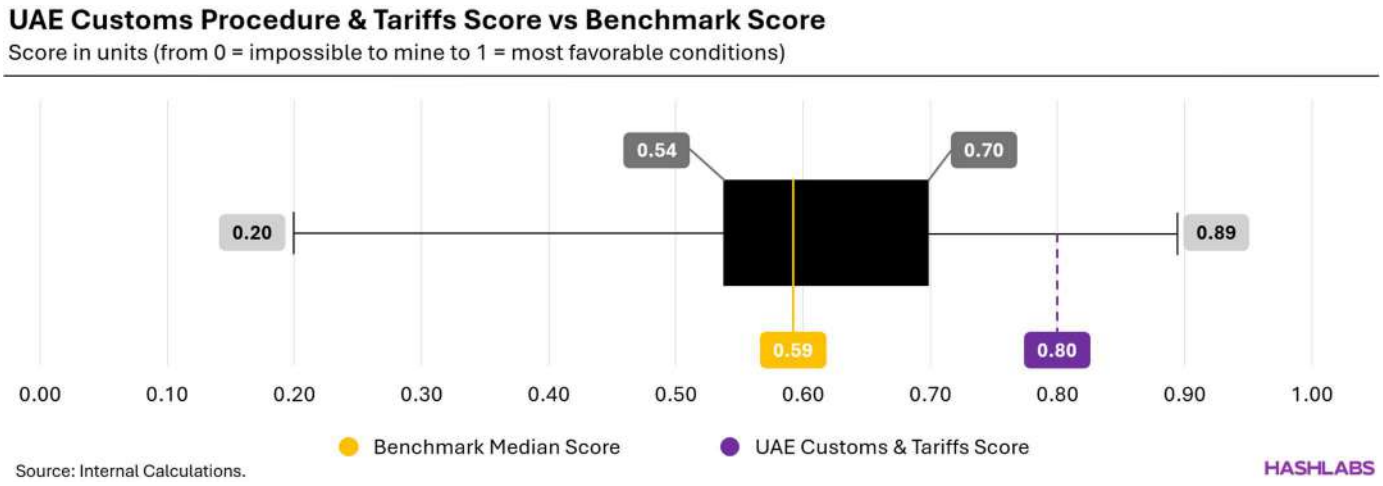
projects have emerged at off-grid solar sites. In parallel, numerous oil and gas fields offer flared or stranded gas mitigation opportunities, providing miners with access to low-cost, abundant energy.

The UAE operates a utility-structured electricity market, where the government controls the utilities. Barriers to entry are moderate, and grid connections can typically be secured within 6 – 12 months. Average power prices are around $45.0/MWh, on par with industry median. Miners often benefit from more favorable terms than other large loads through bulk power negotiations.

Agricultural land historically benefited from heavily subsidized electricity rates, at $12.0/MWh, which incentivized mining activity in these zones. This influx ultimately prompted a ban, as mining operations overloaded infrastructure not designed for high-intensity energy use, bypassed safety standards, and conflicted with land-use and resource-efficiency objectives.

Customs Procedure & Tariffs

UAE tariffs and customs framework rank 2nd out of 18 countries, with a score of 0.80 against the benchmark average of 0.60 and the median of 0.59.

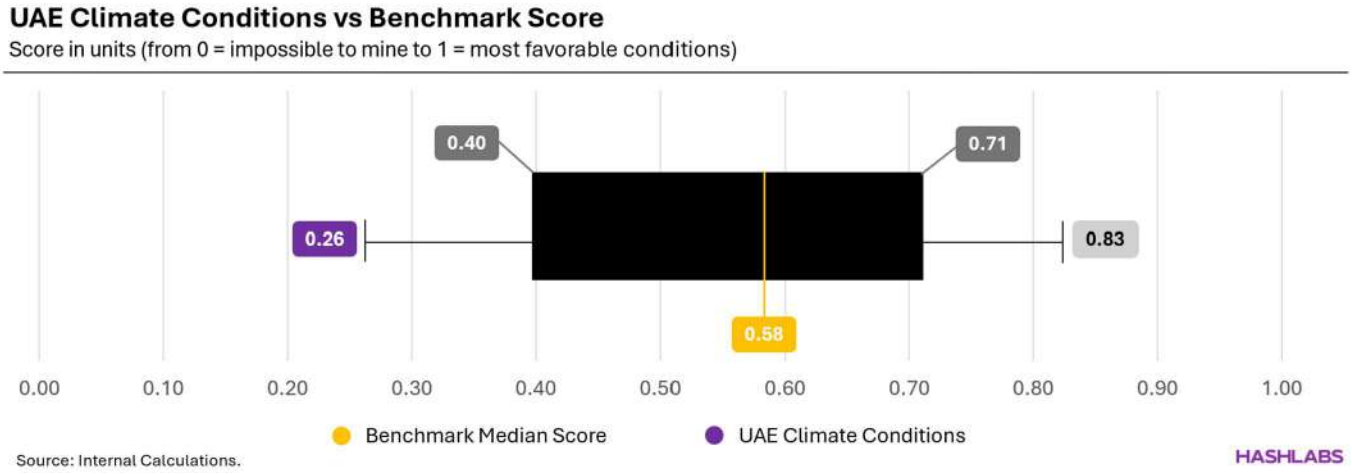


An import license is required to import ASICs within the country, no tariffs are applied on mining imports. However, according to 2025 VAT guidelines[162], commercial/industrial mining incurs a 5.0% VAT but can be avoided in free zones.

Overall electrical and asic import process do not present significant constraints and electrical equipment lead times might have been moderate (2 – 4 months). In such case mitigation mechanisms to accelerate deliveries – especially for ASICs - have proven effective such as the use of accredited customs brokers, free-zone registration, pre-clearance documentation, bonded storage or opening a mitigation custom department.

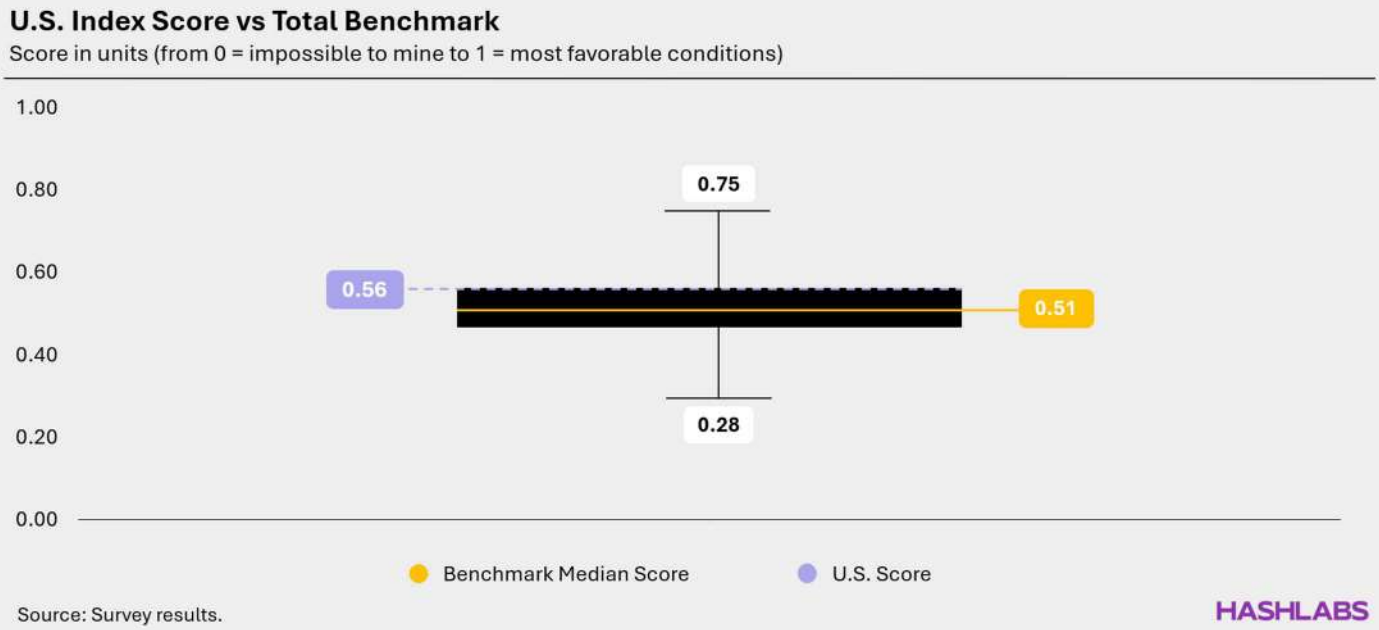
Climate Operating Conditions

UAE's climate operating conditions rank 18th out of 18 countries, with a score of 0.26 against the benchmark average of 0.57 and the median of 0.58.



In Abu Dhabi, climate conditions can be extremely demanding due to high ambient temperatures, particularly during the summer (28°C to 40°C). Winter conditions are considerably more favorable (12°C to 30°C). While diurnal temperature variation remains moderate, the combination of high dust exposure and low humidity can rapidly degrade traditional air-cooled mining setups, necessitating hydro or immersion-based infrastructure. As a result, miners must deploy significant CAPEX to adapt facilities to the UAE's harsh summer.

United States - Texas



Depicting a single score for the United States is challenging given significant interstate heterogeneity, as such, the U.S. score is proxied through Texas at 0.56. Contrary to popular perception, mining conditions in the U.S. are much more nuanced that a straight eldorado. Texas retains one of the most favorable legal and fiscal frameworks globally, which historically supported strong hashrate growth. However, rising tariffs, extended delivery timelines for electrical infrastructure (4–6 months), and a saturated grid – marked by high entry barriers and prolonged connection delays averaging roughly 20 months - are materially weighing on legacy operations. Climate conditions further detract from attractiveness, as Texas experiences hot summers and pronounced diurnal temperature variation which can create operational headwinds.

TLDR Legal Framework

- Current legal environment is favorable.
- Future regulatory framework is expected to remain favorable.
- Potential unfavorable zoning rules change due to AI data center pressure.

TLDR Fiscal Framework

- Slightly favorable tax regime with ability to shift the profit center abroad.
- Subsidies or fiscal incentives available for miners or data centers.
- There is no electricity tax.
- Moderate level of constraint to avoid or mitigate taxes.

TLDR Permits & Licensing Regime

- No operating license is required.
- Construction permits are secured within 3 – 6 months and can achieve 9 months in some cases.

- EIA is moderately burdensome but water permitting requirements are more neutral for data center construction.
- Emissions, heat and noise compliance level are significant for mining operations.
- Zoning restrictions moderately impact land availability for data center development

TLDR Energy Regulation & Grid Access

- High barriers to entry for energy market participation or grid interconnection.
- Grid connection lead times range from 16 - 22 months.
- Electricity costs are on average ranging from $35.0 – $47.5/MWh.
- Miners grid status is favorable compared to other grid participants and have access to demand response program that can be extremely lucrative. Other benefits include PPA and behind-the-meter access.

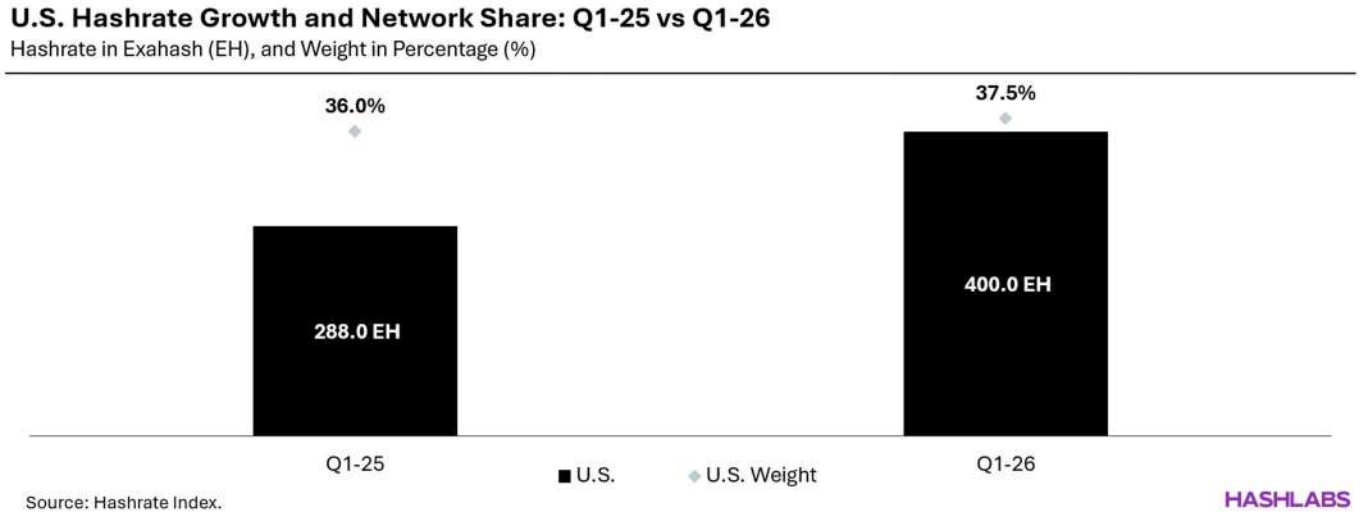
TLDR Customs Procedure & Tariffs

- ASIC imports are no exposed to VAT in U.S.
- ASIC imports do not require a license and are exposed to a varying tariff range (from 10.0 - 30.0%).
- Import procedures are unfavorable for ASICs and electrical infrastructure.
- Electrical equipment lead times have highly affected mining energization timelines (4 – 6 months).
- Mitigation mechanisms on import constraints are slightly effective to accelerate deliveries or cut tariffs.

TLDR Climate Operating Conditions - Texas

- Favorable temperatures level in winter but highly unfavorable in summer (> 35°C).
- Significant diurnal temperatures spread in winter (-3°C to 27°C).
- Favorable humidity level 76.0% but potential dust exposure.

United States Footprint

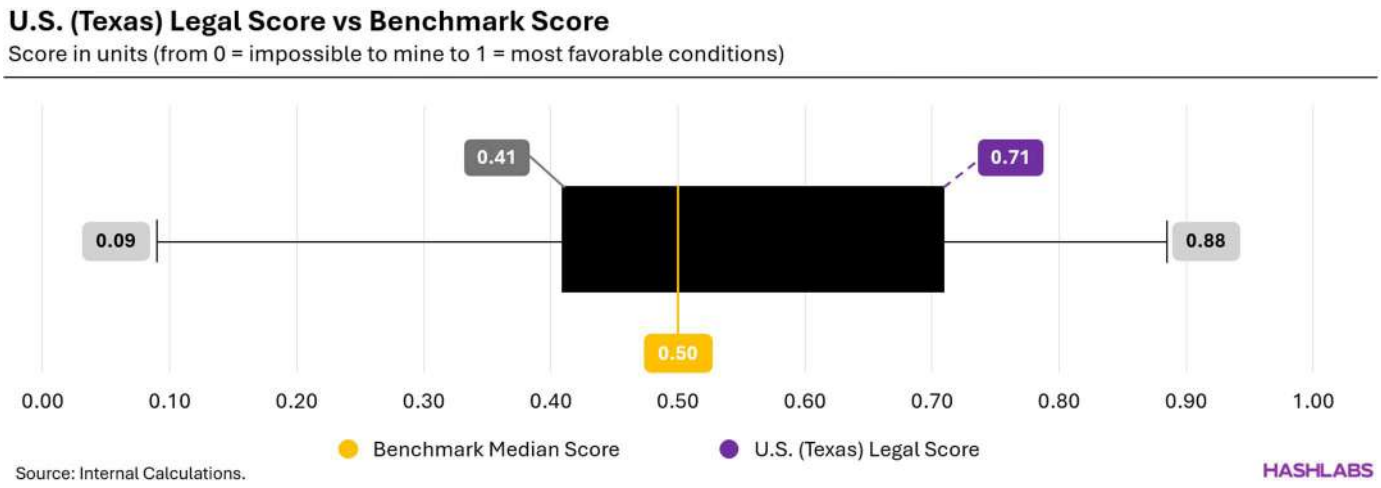


Since the first bitcoin mining crackdown in China in 2021, the U.S. became the leader accounting for 37.5% of the network hashrate in Q1-2026 (vs 36.0% in Q1-2025). Plugging additional 112.0 EH of machines, Oncle Sam share of the network could narrow in the mid-term as AI is now swallowing up all the available capacities that can meet HPC requirements. This pivot will be the catalyst of U.S. potential downtrend, to the benefits of other international locations. However, the existing U.S. footprint and essential role played by mining in electricity market should maintain the country in the leading hashrate race at least in the medium term.

Legal Framework

The U.S. states composition offer various jurisdictions, as a results the following sections will primarily deal with Texas jurisdiction as it accounts for the majority of U.S. hashrate.

Texas's legal framework ranks 4th out of 18 countries, with a score of 0.71 against the benchmark average of 0.54 and the median of 0.50.



Respondents indicated that emerging policy initiatives aimed at pausing or slowing data center development are gaining traction, alongside growing political and community resistance to their perceived impacts. Witnessing the booming demand of AI data centers, impacts from a policy efforts to address

concerns over grid congestion land use and local externalities might rippled on bitcoin mining farms access.

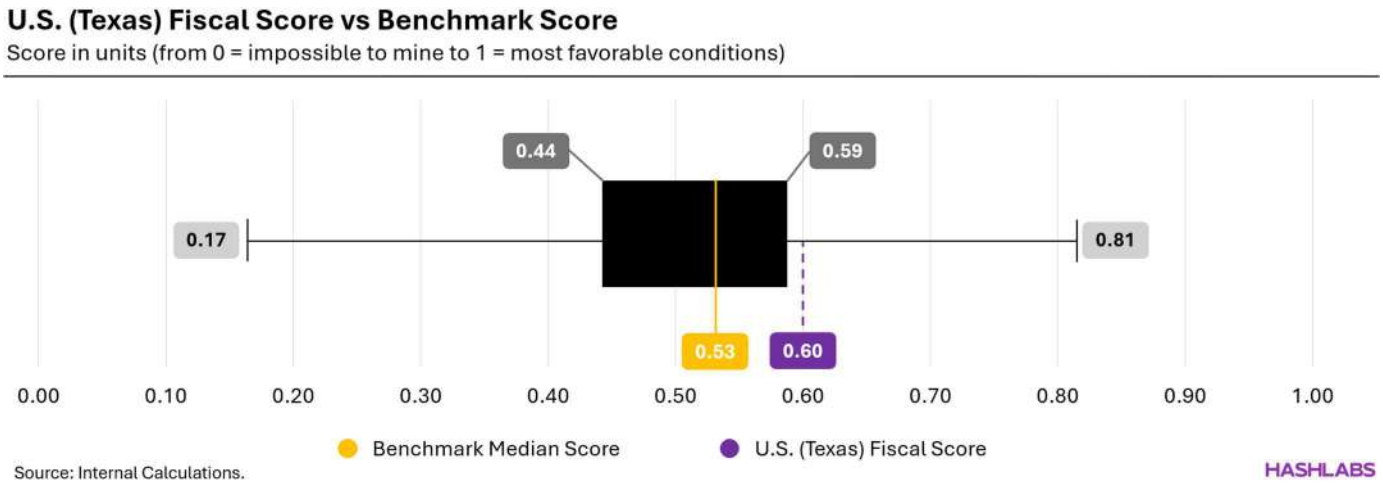
Although some counties have expressed concerns about the siting of AI and data centers, and in certain cases have resisted[163] or delayed specific proposals, the overall regulatory environment for large-scale infrastructure development continues to trend in favor of these projects due to their anticipated economic benefits and broader policy support.

Despite increasing zoning restrictions and ERCOT's new $100,000 initial interconnection screening fee, the overall regulatory framework remains favorable to mining operations.

Bill	Description
2023 – Texas SB 1751	Proposed to **prevent miners from participating in ancillary services** and grid balancing programs but the **bill eventually died** in Committee on State Affairs.
2023 – Texas HB 591	**Exempts stranded gas** that is used for on-site purposes, including the operation of mobile data centers, **from the severance tax**.
2023 - FASB Rules	Introduced the qualification of **Bitcoin to be measured at fair value** for each reporting period on financial statements breaking with impairment-only model.
2024 - Texas SB 1929	The Public Utility Commission of Texas adopted **a rule demanding bitcoin mining facilities** with a power capacity exceeding 75 MW and at least 10% of interruptible load to **register to ERCOT grid operator.**
2025 - S 1475	The Clean Cloud Act aims to ensure that rapid growth in data centers over 0.1 MW does not increase emissions, overload the grid, or raise household power bills—**by forcing these facilities to pay for pollution, impose regional emissions caps** and reduce these caps annually until reaching zero by 2035, use truly clean power, and fund the build-out of zero-carbon energy - **introduced for the moment did not pass any chamber.**
2025 - Texas SB 6	It creates **stricter requirements for new large loads when applying for grid connections**, including an expanded regulatory oversight of "behind-the-meter" connections. In details it requires upfront financial commitments, demonstrable site control and disclosure of any backup generation capacity before a large load can connect to the grid.
2025 - New York SB 8518	Introduced on October 2025 entered the first Committee **and would impose a new excise tax on electricity** on bitcoin mining data centers. The measure exempts facilities powered entirely by off-grid renewable energy. This bill builds on earlier New York's landmark two-year moratorium (S6486D) enacted in 2022 and that expired in 2024, that halted issuance or renewal of permits for new mining facilities.

Fiscal Framework

Texas's fiscal framework ranks 5th out of 18 countries, with a score of 0.60 against the benchmark average of 0.52 and the median of 0.53.



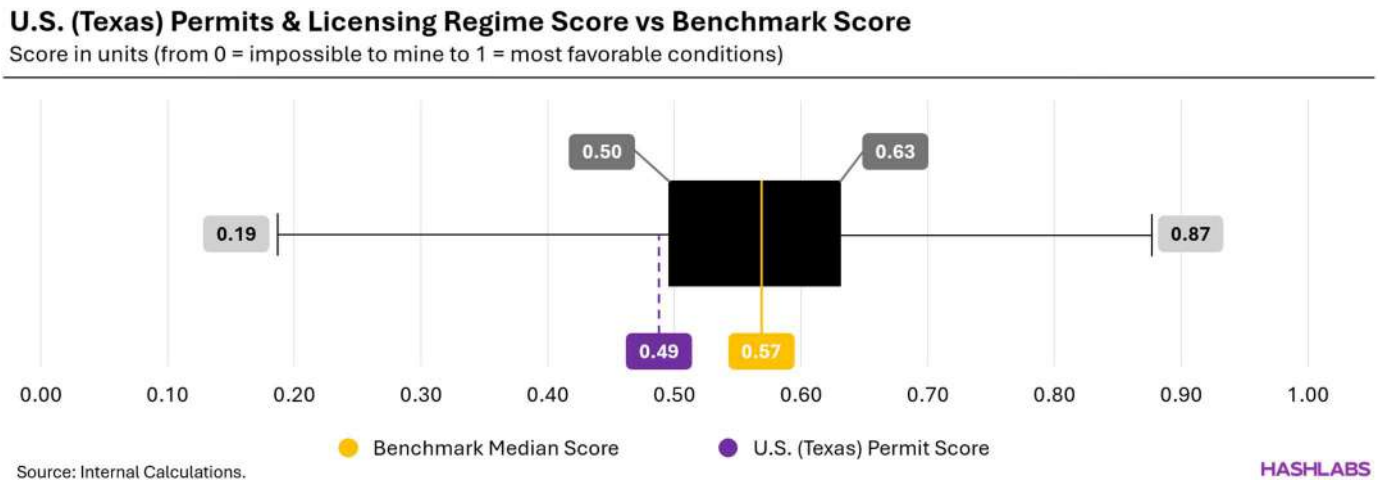
Texas actively incentivizes data centers and Bitcoin mining operations through a mix of state-level tax exemptions, local abatements, and energy-related subsidies. These aim to attract high-capital investments and providing the most attractive grid balance solutions currently available to grid operators as they can flexibly curtail data centers to reduce the network load during demand spikes.

Additionally, miners benefit from the ability to move the profit center into another country but they still face a moderate level of constraint to avoid taxes.

Program Name	Description
State Sales and Use Tax Exemption – Texas[164]	**100.0% exemption of Texas sales tax on qualifying purchases**: equipment, cooling systems, power infrastructure, electricity and fuel for data centers Duration: 10 years ($200M+ investment) or 15 years ($250M+ investment)
Severance Tax Exemption for Flared/Vented Gas	**Exempts Texas taxes on natural gas otherwise flared/vented.**[165]

Permits & Licensing Regime

Texas's permit & licensing framework ranks 15th out of 18 countries, with a score of 0.49 against the benchmark average of 0.55 and the median of 0.57.

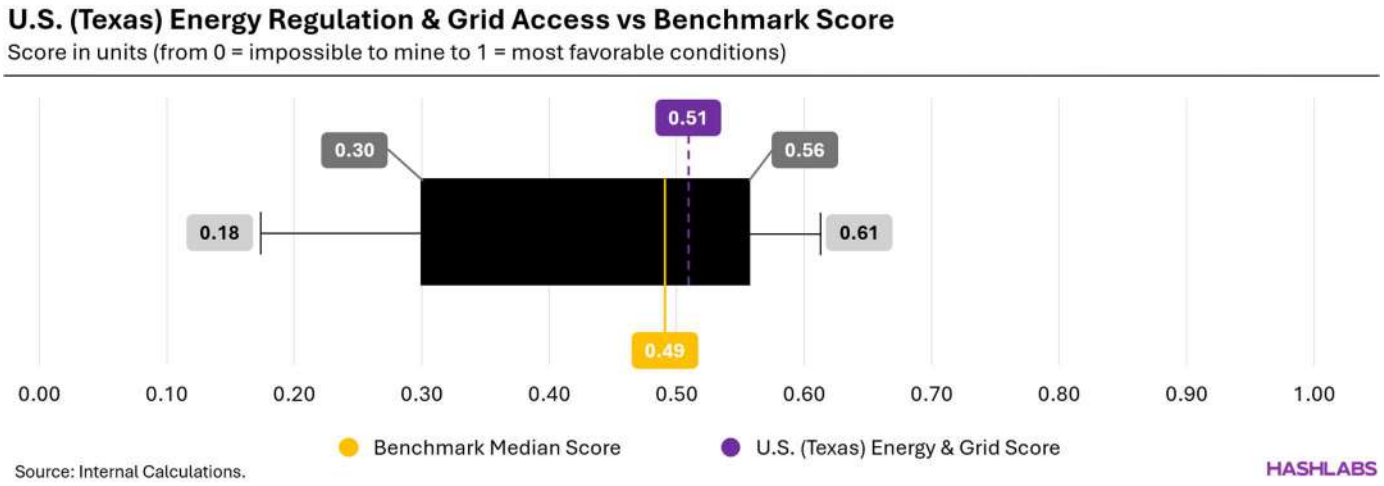


With the copious appetite for water, AI might strengthen the push for water regulation and related permits. While there is no particular constraint in obtaining those permits, the impact remains low for miners as current cooling-system solutions consume minimal amount of water.

The story might be well different for zoning, as it already echoes to previous cases of pushback from local communities against mining facilities particularly due to noise issues. Still miners have successfully developed solutions with immersion and hydro solutions. Currently zoning regulation moderately affect land availability, but emissions, heat and noise restrictions heavily impact data centers operations.

Energy Regulation and Grid Access

Texas energy regulation and grid access rank 7th out of 18 countries, with a score of 0.51 against the benchmark average of 0.44 and the median of 0.49.



Texas has a deregulated electricity market, with the Electric Reliability Council of Texas (ERCOT) serving as the Independent System Operator responsible for managing 90.0% of the electric load[166].

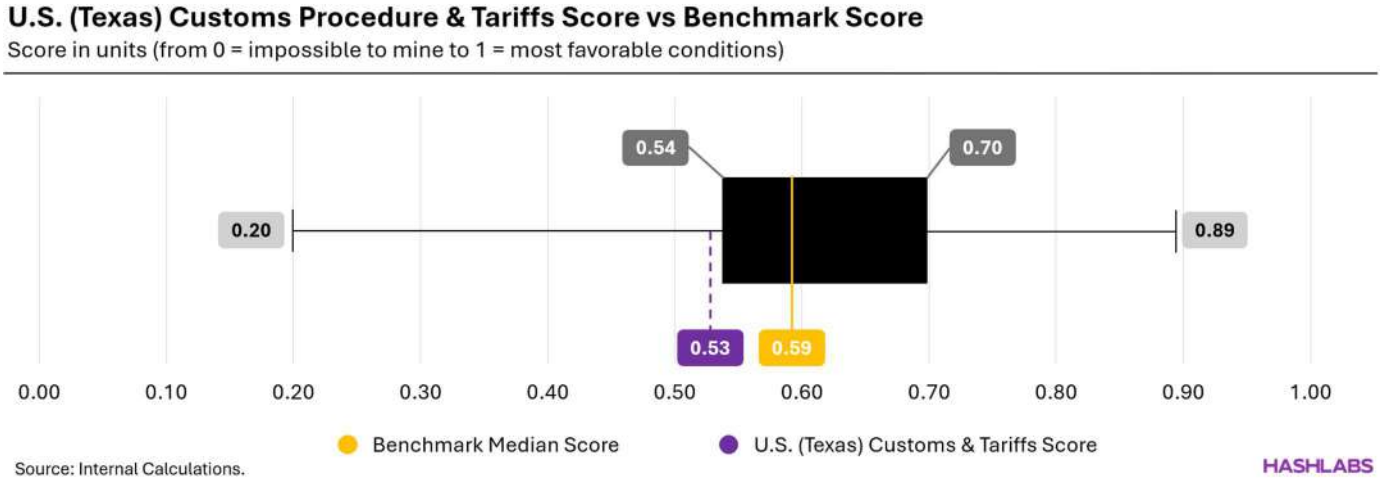
Entering the Texas grid has become harder, with high barriers to break ground into Texas due to the fierce competition of AI loads prolonging connection timelines and available capacity. Lead time for grid interconnection currently falls between 16 to 22 months. This estimate is aligned with approximately 21-month median interconnection study duration reported by ERCOT[167], which excludes the initial screening phase.

As of December 2025, ERCOT expects 59.0 GW of new demand by 2031, while its interconnection queue is dominated by battery storage (41.0%) and solar (37.3%) rather than dispatchable generation potentially exacerbating a deeper stress into the grid during blackout periods but making miners more relevant in this intermittent grid structure. Developers are massively investing[168] in sub-10 MW batteries to bypass traditional delays and leverage on high-priced intervals existing in the grid. In total 101.0 GW of battery storage is coming by 2030 versus 95.0 GW for solar. Moreover, the grid will undergo another major transformation with the reliability plan adding five[169] new 765-kV Extra-High Voltage electric transmission lines, three of them connecting the Permian Basin, a region primarily known for its the wind and solar capacities.

Concerns have been expressed[170] regarding data centers' explosive power demand as it could drive up electricity prices for customers. Texas industrial power rates took an upward trajectory in 2025 averaging $65.0/MWh against $61.0/MWh a year ago, after reversing back from previous highs in 2022 where electricity rates ranged from $68.0/MWh to $80.0/MWh between April to December 2022. For unhedged miners - without a PPA or energy strategy - potential rise in electricity costs could be the next challenge. Currently, they benefit from a favorable power price environment with direct cost ranging between $35.0/MWh - $47.5/MWh.

Customs Procedure & Tariffs

U.S. tariffs and customs framework rank 14th out of 18 countries, with a score of 0.53 against the benchmark average of 0.60 and the median of 0.59.



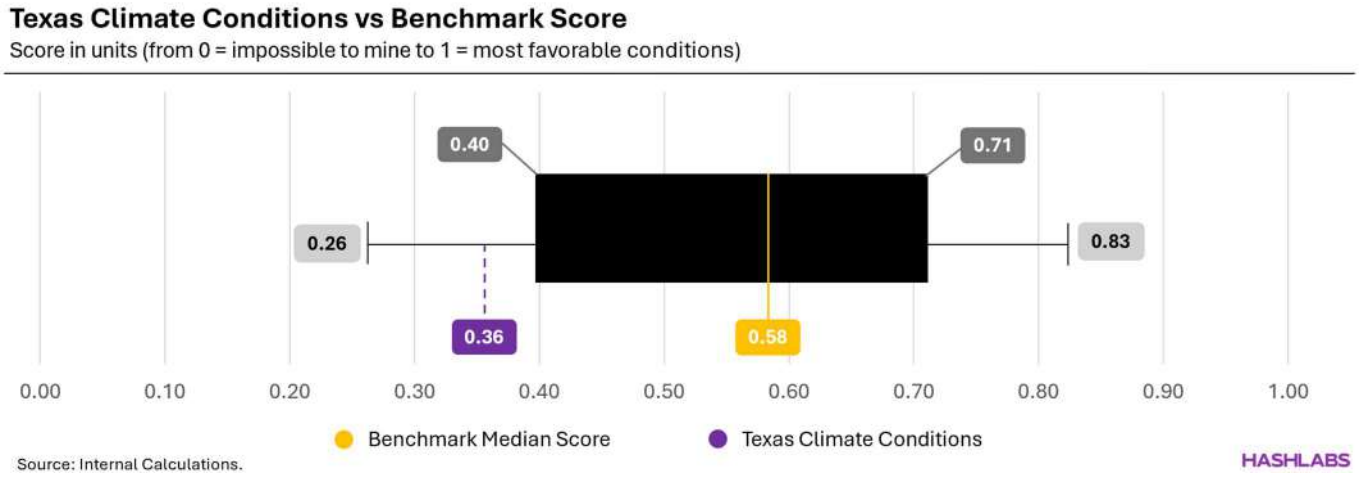
Historically most ASIC manufacturing sites were located in China, however supply chain bottlenecks, tariffs among other risks forced them to diversify their footprint. To hedge these exogenous shocks, foundries such as Bitmain[171] have relocated part of its assembly line in Malaysia and Indonesia, and launched a new production-line in the U.S. for S21 Pro bypassing trade barriers, duties and tariffs. A path followed by MicroBT which also disclosed[172] a manufacturing plant in Delaware. U.S. companies importing

ASICs are exposed to a large tariff range of 10.0% - 30.0% depending on mitigation mechanisms employed, but usually seek product reclassification and adjustment in manufacturing origin.

To picture difficulties faced in recent ASIC imports, in November 2024 multiple batch of shipped Antminer ASCIs were temporary retained[173] at ports of entry by the Customs and Border Protection Agency (CBP) - specifically targeting Bitmain S21 and T21 machines. This event largely depicts the current unfavorable perception of import procedures for ASICs but also electrical equipements.

Climate Operating Conditions

Texas's climate operating conditions rank 16th out of 18 countries, with a score of 0.36 against the benchmark average of 0.57 and the median of 0.58.



In Texas, climatic conditions can become highly challenging during the summer, with temperatures reaching up to 37°C, a period that has historically coincided with grid curtailments driven by peak electricity demand. Winter conditions also exhibit significant diurnal temperature variation, ranging from -3°C to 27°C. While humidity levels remain relatively moderate (approximately 76.0%), mining infrastructure must be designed to protect equipment from dust exposure and severe heat to ensure operational reliability.

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