



# ESG Benchmark

JULY 2023

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# Institutional-Grade ESG Data



## Research-Driven ESG Insights

Our robust, data-led methodology equips investors with research-backed insights to make informed ESG crypto investment decisions. The data and rankings are updated on a quarterly basis.



## Crypto-Native Methodology

All asset classes are not created equally. Our data and rankings, created in collaboration with CCRI, allow for the assessment of the most important crypto-relevant environmental, social and governance considerations.



## Equal Weighting For ESG

We ensure equal weighting to all Environmental, Social, and Governance (ESG) aspects, a crucial factor often overlooked in the industry, fostering more comprehensive and responsible investment decisions.



## Optimised For Financial Products

Combining CCRI's expertise in crypto sustainability data with CCData's market-leading crypto data and index expertise, we collectively offer best-in-class ESG data covering a wide range of underlying metrics, optimised for financial products.

[Access the Underlying ESG Methodology And Datasets](#)

# Mission Statement

# Introducing: ESG Benchmark

Leveraging their combined expertise in digital asset data and Environmental, Social, and Governance (ESG) analysis, CCData and CCRI, have collaborated to create an industry first, institutional grade Digital Asset ESG Benchmark and data solutions.

CCData and CCRI's unique methodology provides a novel lens through which the industry can discern an asset's ESG exposure and analyse the ESG risks and opportunities inherent in digital assets.

The benchmark offers digital asset ESG ratings for 40 of the largest, most liquid crypto assets. The benchmark is supported by thousands of hours of research and utilises both qualitative and quantitative metrics to assess a broad range of ESG parameters.

The underlying digital asset ESG data and rankings support the development of industry-first ESG indices and other financial products. Whilst complete ESG data and rankings are available, constituent data from environmental, social and governance can also be derived for more detailed analysis in each of these distinct areas.



# Mission Statement

CCData, in partnership with CCRI, have created an industry-first, institutionally-focused ESG Benchmark that provides a framework for assessing the ESG risks and opportunities associated with a selection of digital assets. The first iteration of the benchmark covers 40 assets over 11 core categories of evaluation:

- Fundamentals
- Electricity Consumption
- Climate Impact
- Hardware
- Transparency
- Accessibility & Inclusivity
- Community Engagement
- Security
- Decentralisation
- Participation

Our innovative methodology draws on a wide range of qualitative and quantitative metrics, covering all ESG aspects. A grade (AA-E) is assigned to each asset to identify ESG-compliance within the industry.

## What do the grades mean?

The ESG Benchmark ranks digital assets from AA-E. We classify a Top-Tier digital asset as any in the AA-BB bracket and Lower-Tier digital asset as those graded B-E. Digital assets in the Top-Tier meet our minimum threshold for ESG risk.

## What the grading is not

This grading does not connote overall superiority, instead it represents a means of ranking digital assets according to ESG parameters.

## Disclaimer

The ESG Benchmark does not serve as a guide to which digital asset is superior from an investment perspective. The ESG Benchmark does not account for the recent regulatory action taken by the SEC against tokens deemed to be unlicensed securities.

# Who is the ESG Benchmark for?

CCData and CCRI's ESG Benchmark provides the industry with a robust framework for discerning the top digital assets' ESG exposure and associated ESG risks and opportunities. The ESG Benchmark is a critical first step toward

improving the resilience of the industry in the face of ESG challenges and criticisms from regulators, policymakers and media, who consider ESG requirements a top priority.



**Index Providers** who require access to comprehensive data that continuously monitors ESG performance, providing the ultimate benchmark for ESG investment products and index solutions.



**Regulators** who need to assess the ESG performance of digital assets and investments, monitor the industry, and evaluate compliance amidst growing ESG concerns, ensuring effective oversight.



**Funds** looking to integrate ESG into their asset selection processes and strategies, meet investor expectations who require ESG as part of their investment mandates, and ensure regulatory compliance across multiple jurisdictions.



**Exchanges** that need to ensure transparency amidst regulatory pressures, and those making informed listing decisions which require referencing a comprehensive ESG benchmark.

ESG Benchmark Rankings

Find out more about our ESG data solutions

# Benchmark Scoring - Key Principles

- The three key **categories: Environmental, Social and Governance**, are divided into subcategories of metrics, each with weightings based on their relative importance - these weightings are decided at CCData and CCRI's discretion, and may change in future editions of the Benchmark.
- Each category includes a range of **metrics that can quantitatively or qualitatively measure the ESG compliance of an asset**. Metrics are then given points based on their relative importance within that category - again decided at CCData and CCRI's discretion.
- Points are aggregated within each category and are then scaled to the **category weighting**. Each category score is summed up to reach a total score.
- Assets are granted a grade given their **final score, ranging from AA-E**. The scores required for each grade are outlined on page 10. The scores and grades across all assets are comparable, and the weaker performance of Proof-of-Work coins and centralised assets highlights the relatively poor compatibility with the ESG standards. We define '**Top-Tier**' assets as those that attain a **grade BB or higher**, whereas those attaining a **grade B or lower** are considered '**Lower-Tier**'.



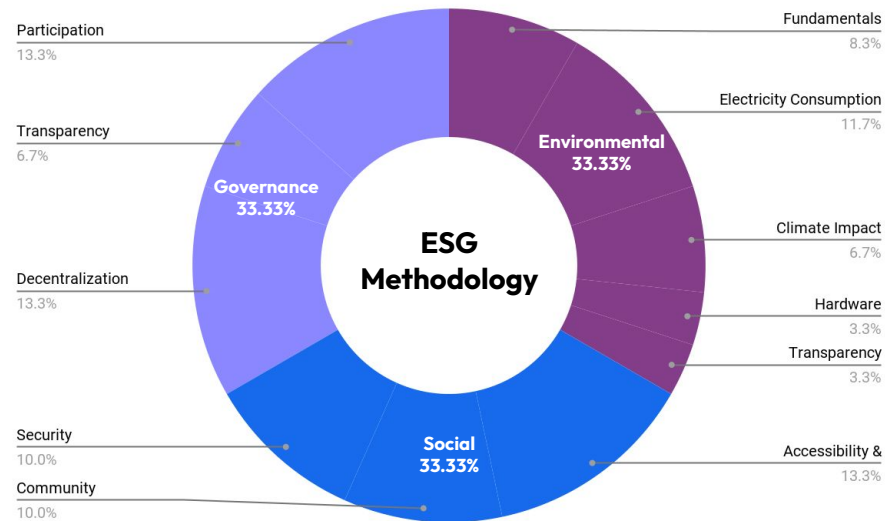
# Methodology & Rankings

# ESG Methodology Ranking and Grading

Scores from each category are aggregated to form a total cumulative score. The **maximum score is 100**.

We ensure equal weighting to **Environmental, Social, and Governance** (ESG) aspects. This is often overlooked in the industry but is essential for fostering more comprehensive and responsible investment decisions.

**Top-Tier Assets** are required to maintain a minimum score of 65, corresponding with a BB score, whilst **Lower-Tier Assets** maintain a score below this threshold.



Category	Environmental	Social	Governance	Total Points
Points	33.33	33.33	33.33	100

Grades	AA	A	BB	B	C	D	E
Points	>70	65-70	60-65	55-60	50-55	45-50	<45

# ESG Assets Toplist

Access the underlying ESG data and methodology

See the full rankings on our dashboard

Asset	Environmental	Social	Governance	Total Score	Final Grades
Ethereum	26	28	25	79	AA
Solana	26	26	16	69	A
Cardano	26	18	24	68	A
Binance Coin	25	23	20	68	A
Aptos	25	21	22	68	A
Polkadot	24	17	26	68	A
Dai	25	16	26	67	A
Ripple	27	22	16	65	A
Tezos	26	20	19	65	A
Uniswap	24	20	21	65	BB
Cosmos	22	19	23	64	BB
Polygon	26	23	15	64	BB
Algorand	25	22	17	63	BB
EOS	25	18	21	63	BB
Stellar Lumens	30	20	13	62	BB

# Key Highlights

# Key Highlights — Environmental

**Assets increasingly build on technical fundamentals with rather low electricity requirements.** 34 out of the top 40 assets rely on a consensus mechanism, such as Proof-of-Stake, which does not exceed 10 GWh of annual electricity consumption. This is particularly interesting as only a few years ago, the electricity-intensive Proof-of-Work mechanism was dominant among top digital assets.

**Differences in the magnitude of electricity consumption remain striking.** The environmental concerns regarding the electricity intensity of digital assets remain central, with Bitcoin consuming more than 100 TWh per year. Some Proof-of-Stake-based assets, however, consume 10,000 times less electricity than Bitcoin.

**Only a few assets require specialised and single-purposed hardware.** Only 4 out of the top 40 assets require so-called ASICs that need to be replaced regularly to remain competitive and cannot be used for other purposes, thus generating inevitable e-waste.

**For the majority of assets, the carbon intensity of electricity generation is below the world average.** For most of the analysed assets, the carbon intensity ranges between 300 and 400 gCO<sub>2</sub>/kWh which is slightly below the world average of 459 gCO<sub>2</sub>/kWh. With around 500gCO<sub>2</sub>/kWh, the carbon intensity of Proof-of-Work-based assets is worse than average, as cheap electricity sources nowadays include natural gas and subsidized coal power.

**More transparency on the sustainability performance of digital assets is required.** For only 7 of the top 40 assets, there is comprehensive and high-quality information available on their sustainability performance. More disclosure with proper methodology descriptions, third-party audits, and live data is needed.

# Key Highlights — Social

**Security remains a key priority within the industry.** This was evidenced by the implementation of bug bounty programs in 80% of projects. This heightened focus on security is crucial for effectively safeguarding customer funds, considering the escalating frequency of attacks targeting the industry. This proactive approach aligns with the principles of ESG, highlighting the industry's dedication to responsible and secure practices that ensure the long-term integrity and trustworthiness of the blockchain ecosystem.

**Average transaction costs are still high.** Despite the availability of Blockchains with low transaction fees, the majority of transactions occur on blockchains with high fees. This high fee requirement creates barriers to entry, hampers adoption, and impacts the accessibility and inclusivity of blockchains. Despite the effectiveness of Layer2 solutions in addressing this issue, their widespread adoption appears to be progressing slowly due to the concentration of transactions on Layer 1 blockchains.

**Concentration of Wealth and Power is rising among protocols.** The unequal distribution of protocol tokens significantly undermines fairness within the industry, posing a substantial threat to inclusivity. This observation becomes particularly concerning given that the top 10 wallets control 50% or more of the coin/token supply for 20% of the analysed assets. Such a concentration of wealth and power raises serious questions regarding the industry's adherence to ESG principles and its commitment to fostering a level playing field for all stakeholders.

**Community grants are becoming increasingly prevalent across the industry.** Our analysis reveals that an impressive 67.5% of projects incorporate some form of community grant programme, which highlights the industry's strong commitment to onboarding diverse participants and promoting equal opportunities. These grants play a pivotal role in empowering underrepresented communities and individuals, making substantial contributions to the development of a more inclusive and equitable ecosystem.

# Key Highlights — Governance

**Further Adoption of On-Chain Governance is Required.** Only 16 of the top 40 assets have fully implemented on-chain governance that allows token holders to vote on proposals. Additionally, 3 assets allows token holders to participate in governance by delegating their tokens to validators.

**Lack of Decentralisation.** Only 9 of the top 40 assets have a Nakamoto Coefficient of over 50, suggesting that they are sufficiently decentralised. Of these 9 assets, 5 of them have implemented a Proof-of-Work consensus, indicating the increased decentralised nature of such blockchains compared to Proof-of-Stake assets.

**Polkadot, Cardano and Solana Lead In Decentralisation Among the Non-PoW Assets.** Polkadot leads the non-PoW blockchains when it comes to decentralisation based on the Nakamoto Coefficient, courtesy of their Nominated Proof of Stake (NPoS) consensus mechanism.

**Sufficient Documentation of Governance Process.** 29 of the top 40 assets have a dedicated web page where they have documented their governance process and explains how protocol changes are discussed and implemented.

**Higher Rate of Proposal Success Rate in Off-Chain Governance.** 24 of the assets have a proposal success rate of greater than 50%. 16 of them employ an off-chain governance system suggesting that there is more agreeableness and due diligence before each proposal is available for voting.

**Low Average Voter Turnout.** Only 6 of the assets have an average voter turnout of greater than 50%. Assets employing Off-Chain governance are not transparent about their turnout for decision-making by design.

# Category Statistics



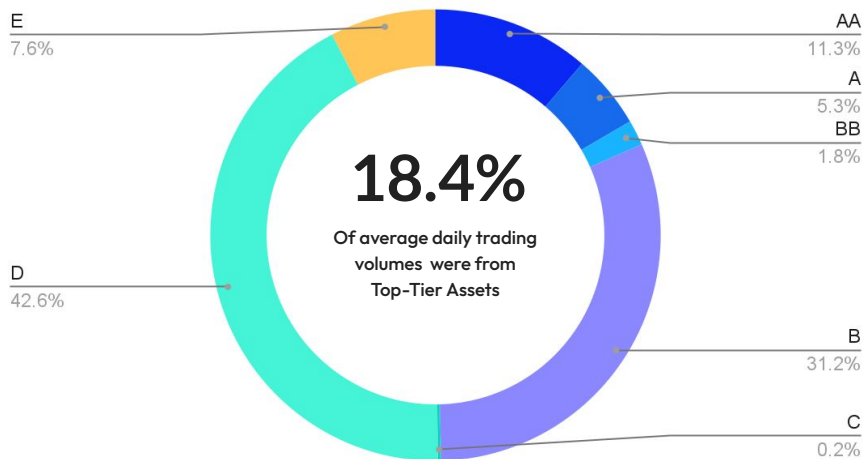
# Top-Tier ESG Assets

CCData has established the notion of **Top-Tier volume** whereby investors can segment the current universe into higher and lower volumes, based on ESG rankings.

We currently define **Top-Tier volume** as volume derived from exchanges scoring a **BB and above**.

**Top-Tier Assets** represented **18.4% of total average daily trading volumes** of the 40 assets, dominated by AA-Graded Assets (Ethereum).

Average Daily Volumes Aggregated By Grade



Volumes are calculated during data collection period (Q2 2023) using CCData's OHLCV dataset and utilising an average 90 days period.

# Environmental

## 85%

Of the analysed assets rely on a consensus mechanism that does not exceed 10GWh of annual consumption.

## ~90%

Of the annual electricity consumed by the analysed assets can be attributed to Bitcoin.

## 62.5%

Of the analysed assets have a carbon intensity of electricity usage that is lower than the current global average of 459 gCO<sub>2</sub>/kWh.

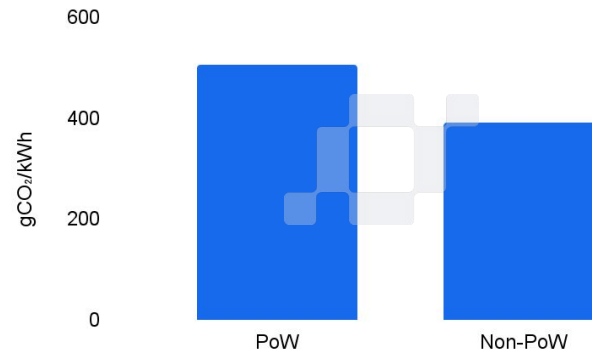
## 90%

Of the analysed assets do not require specialised and single-purposed hardware.

## 17.5%

Of the analysed assets provide comprehensive and high-quality disclosure regarding their sustainability performance.

### Average Carbon Intensity of Electricity



# Social

**\$2.98**

Is the average transaction fee required to transact on the analysed blockchains and protocols.

**678**

Is the total number of trading pairs in which analysed assets feature on Top-Tier exchanges, making them widely accessible.

**6.4M**

Daily active users across analysed protocols, represented by daily active wallets.

**\$26.0B**

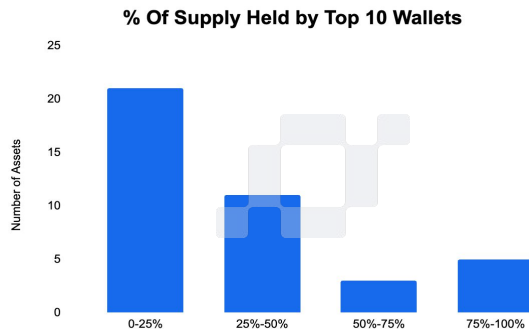
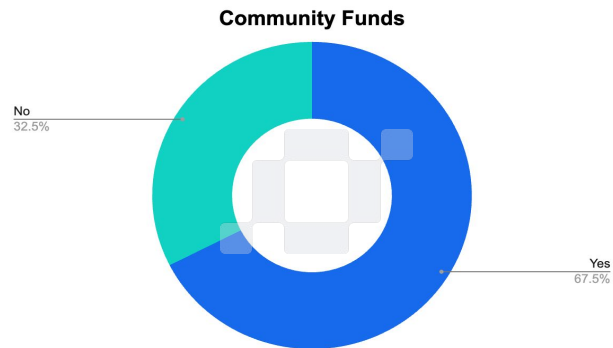
Is the average daily trading volume for the analysed crypto assets on centralised exchanges.

**67.5%**

Of blockchains and protocols have community grants to fund their community initiatives.

**80%**

Of analysed projects have implemented a Bug Bounty program to increase their security measures.



# Governance

**15.0%**

Of assets had their top 10 token holders account for less than 10% of the total supply.

**9**

Of the analysed assets have a Nakamoto Coefficient of more than 50. Of the 9, only 4 are non PoW assets.

**40.0%**

Of the analysed assets have a fully on-chain governance system where token holders can vote on proposals.

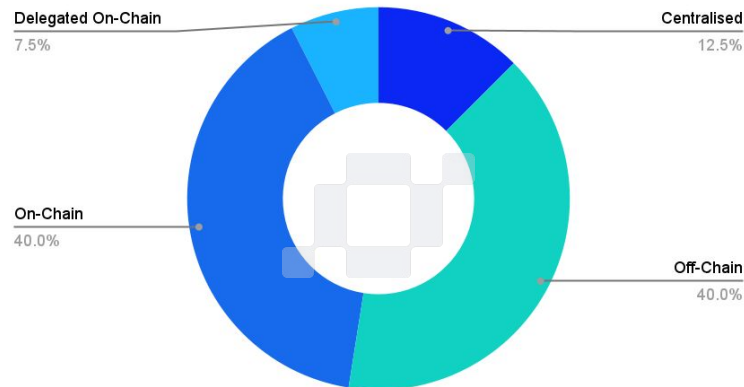
**27.5%**

Of the analysed assets have more than 100 proposals. 60% of them have a proposal success rate of more than 50%.

**72.5%**

Of the analysed assets have documentation of their governance process.

Type of Governance



# Conclusion

# Conclusion

ESG is emerging as a critical aspect of the digital asset landscape, driven by increasing institutional adoption and the demand for sustainable investment practices. **As the ecosystem expands, so does the need for a comprehensive ESG benchmark tailored specifically to the digital asset space.** CCData and CCRI's ESG Benchmark allows investors to accurately assess ESG risks and opportunities, reducing barriers to entry from an institutional perspective, whilst helping to foster and shape a sustainable future for the entire ecosystem in the process.

By grading a selection of the largest and most liquid digital assets using a standardised ESG criteria, **this benchmark equips investors with the tools needed to make informed decisions and allocate resources to assets which hold strong ESG scores.** Our institutional grade ESG benchmark serves as a catalyst for positive change within the industry, encouraging digital asset projects to prioritise sustainability and sound governance practices when making decisions.

This report has highlighted key findings which should be considered when approaching ESG in the digital asset space. For example, although **Bitcoin ranks second in Social, and fourth in Governance, it ranks last in Environmental due to heavy electricity consumption and the carbon intensity of the electricity it utilises,** amongst other environmental externalities. This reflects the expected poor Environmental performance of Proof-of-Work assets, who conversely score well in both Social and Governance metrics.

On the other hand, **Ethereum, the top performing asset in the Benchmark, produced stellar scores in each section, being the only asset to receive an AA grade in excess of 70 points.** Ethereum's recent shift to Proof-of-Stake is a key driving force behind their consistent scores across all sections, reflecting their commitment to sustainability whilst maintaining strong principles in decentralisation.

# Contact

The ESG Benchmark is backed by thousands of research hours and covers over 200 qualitative and quantitative metrics. This report is updated twice annually to reflect the fast-changing digital asset landscape. If there is any part of the Benchmarks that you would like to discuss, please reach out to us.

## Speak to us if you are interested in any of the following:

- Custom Reporting
- Detailed Benchmark Scores
- Underlying Data

Access the Benchmark scores using our API

## Reach out to:

CCData Sales: [sales@ccdata.io](mailto:sales@ccdata.io)

CCData Research: [research@ccdata.io](mailto:research@ccdata.io)

CCRI Contact: [hi@carbon-ratings.com](mailto:hi@carbon-ratings.com)

Access the underlying ESG data and methodology

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