VanEck®

April 19, 2021

DIGITAL ASSETS

Bitcoin Mining and ESG

Speakers

Gabor Gurbacs: Director, Digital Asset Strategy, VanEck

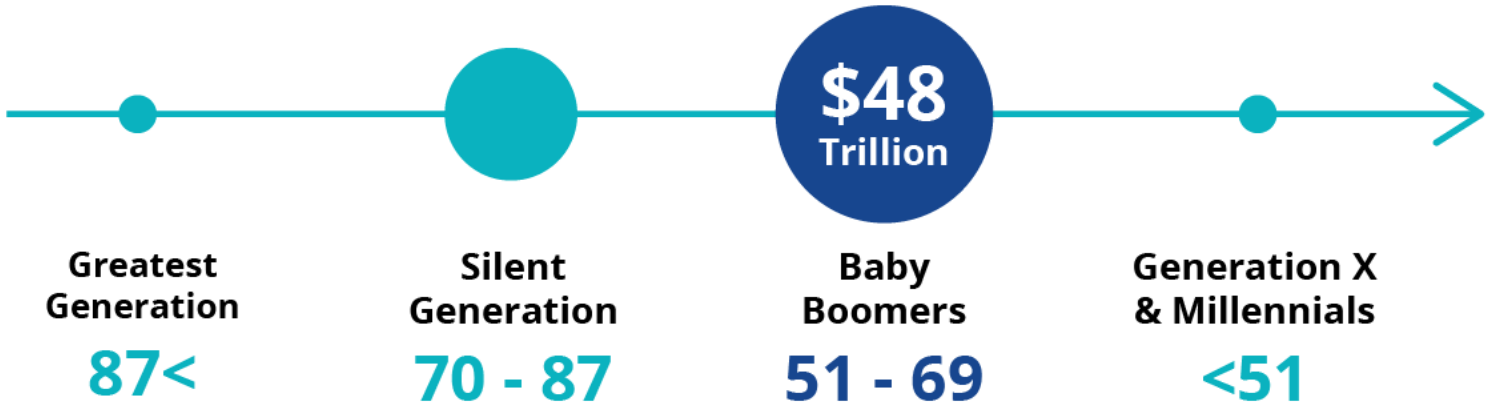
Jason Les: CEO, Riot Blockchain

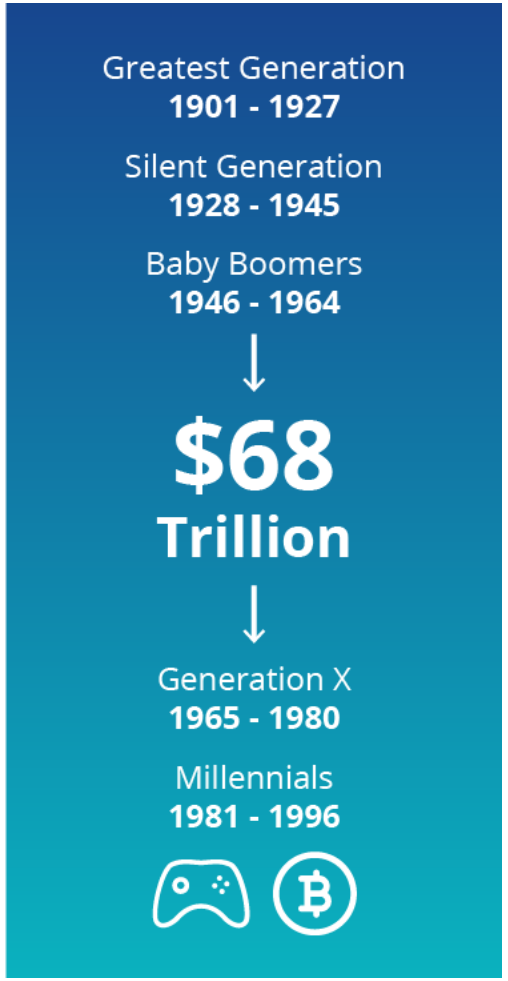
Potential Generational Wealth Transfer

New investment themes emerge: Bitcoin, digital assets, eSports and innovation

$68 Trillion Assets in Motion

Cerulli Associates projects that nearly 45 million U.S. households will transfer a total of $68.4 trillion in wealth to heirs and charity over the course of the next 25 years.



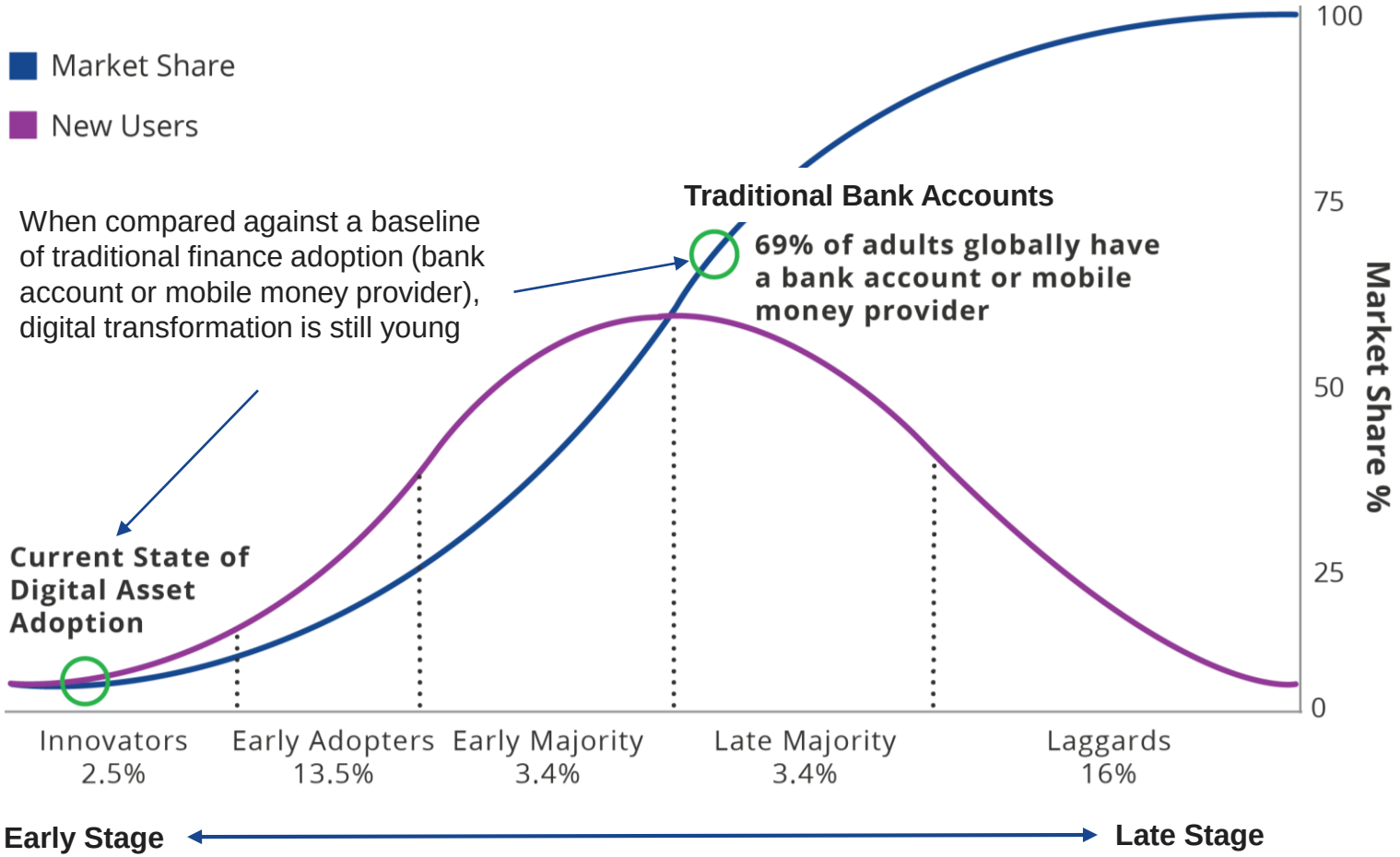


Data as of 10/29/2019
Source: Cerulli Associates.

Bitcoin/Digital Assets are in the Early Days of Adoption

vaneck.com/digital-assets

S-Curve represents a theoretical framework for understanding the adoption of new technologies across a given population or market share



Digital Transformation Adoption

- Digital transformation is still in its early stages.
- 68m crypto users around the world represents less than 1% of the world's population*.

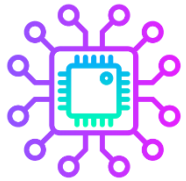
* Source: VanEck, Statista as of 3/31/21.

Digital Transformation Companies

Digital transformation companies engage in a wide variety of business lines within the broader ecosystem

Payment Gateways

Companies that process credit card and digital assets payments for websites and commerce platforms as well as traditional brick and mortar stores.

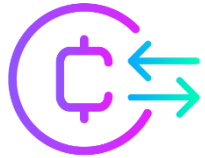


Hardware

Companies that create components which are used to mine or store digital assets, such as semiconductor chips.

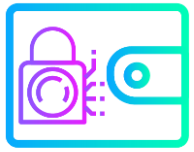
Crypto Miners

Companies involved in processing transactions among users on public ledgers.



Exchanges

Companies which provide a platform to facilitate the trading of digital assets similar to traditional equity stock exchanges.



Crypto Holding and Trading

Companies which hold significant amounts of digital assets on their corporate balance sheet, or are otherwise involved in the trading of digital assets for profit.

Software and Value Added Services

Companies that create digital asset software or otherwise facilitate digital asset transactions, payments and the operation of digital asset applications.

Banking & Asset Management

Companies that provide a link between traditional financial services and the emerging digital asset economy, often in the form of payment and custody solutions.

Source: MVIS, VanEck as of 3/31/21.

Introduction to Bitcoin Mining

Mining is the process by which new bitcoins are entered into circulation

- Mining is essentially just verifying transactions on a network, in this case the Bitcoin network.
- Primary purpose of mining is to allow bitcoin nodes to reach a secure, tamper-resistant consensus.
- Bitcoin miners receive rewards for verifications roughly every 10 minutes.
- Transactions are verified in a bundle called a “block”. The history of verified blocks is called the blockchain.
- Mining rewards are paid to the miner who discovers a solution to a complex mathematical puzzle first.
- The probability that a participant will be the one to discover the solution is related to their portion of the total mining power on the network.
- Mining is also the mechanism used to introduce new bitcoins into the system.

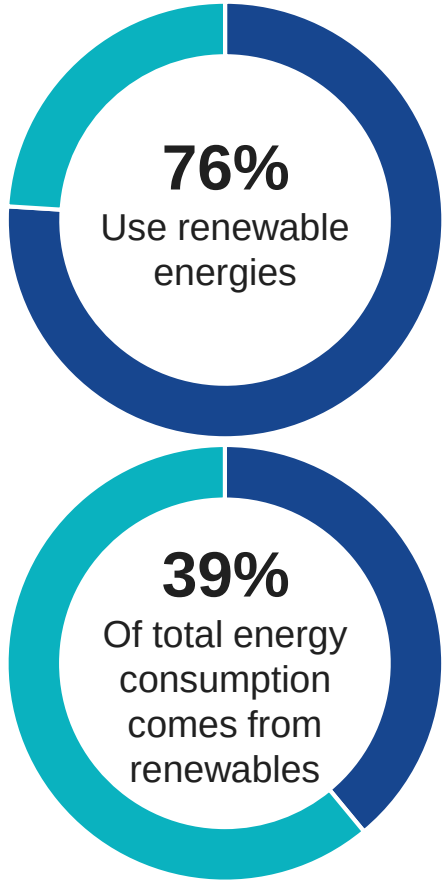
Source: VanEck

Bitcoin's Environmentally Conscious Impact

Bitcoin and bitcoin mining is becoming more environmentally conscious

- Bitcoin's energy consumption is a feature, not a bug.
  - Energy consumption is necessary to operate the bitcoin network, similar to financial systems and other infrastructure.
  - Bitcoin's high energy requirement helps the network maintain its security, reliability and speed.
- Energy cost per transaction is an often quoted but misleading point.
  - Energy consumption is not necessarily equivalent to carbon dioxide emissions and environmental pollution.
  - One transaction can contain hundreds or thousands of bitcoin payments (batching, second layer settlements).
- Stranded energy and miner mobility.
  - Bitcoin miners are mobile and able to relocate to take advantage of cheaper, cleaner or seasonally available excess energy.
- Potential catalyst for increasing use of renewables.
  - According to the World Economic Forum, bitcoin could become a storage solution for excess renewable energy generated by homes, remote industrial facilities and smart cities.
  - There are bitcoin mining companies today that purely focus on environmentally conscious mining.

Bitcoin miners are already using renewables

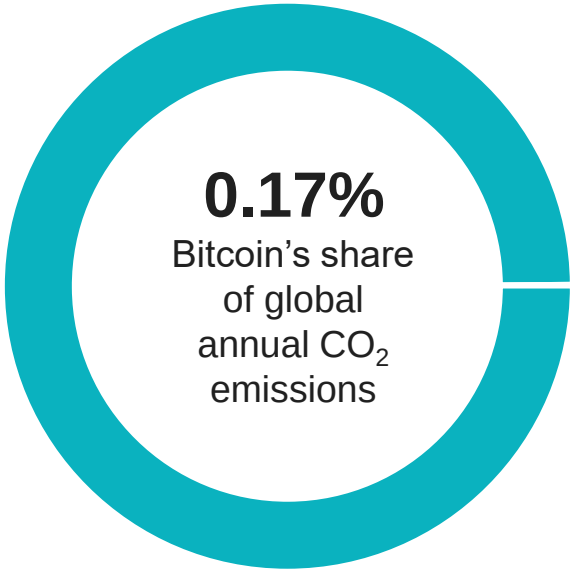


Source: VanEck, Cambridge Centre for Alternative Finance

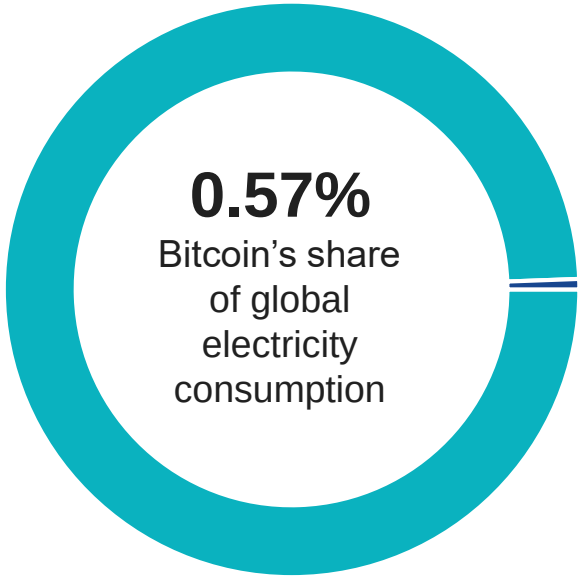
Bitcoin CO_2 Emissions and Energy Consumption are Minimal

Bitcoin mining uses a small percentage of global electricity and produces a negligible share of emissions

Global Annual Co_2 Emissions
Total = 34.1 Billion Tons



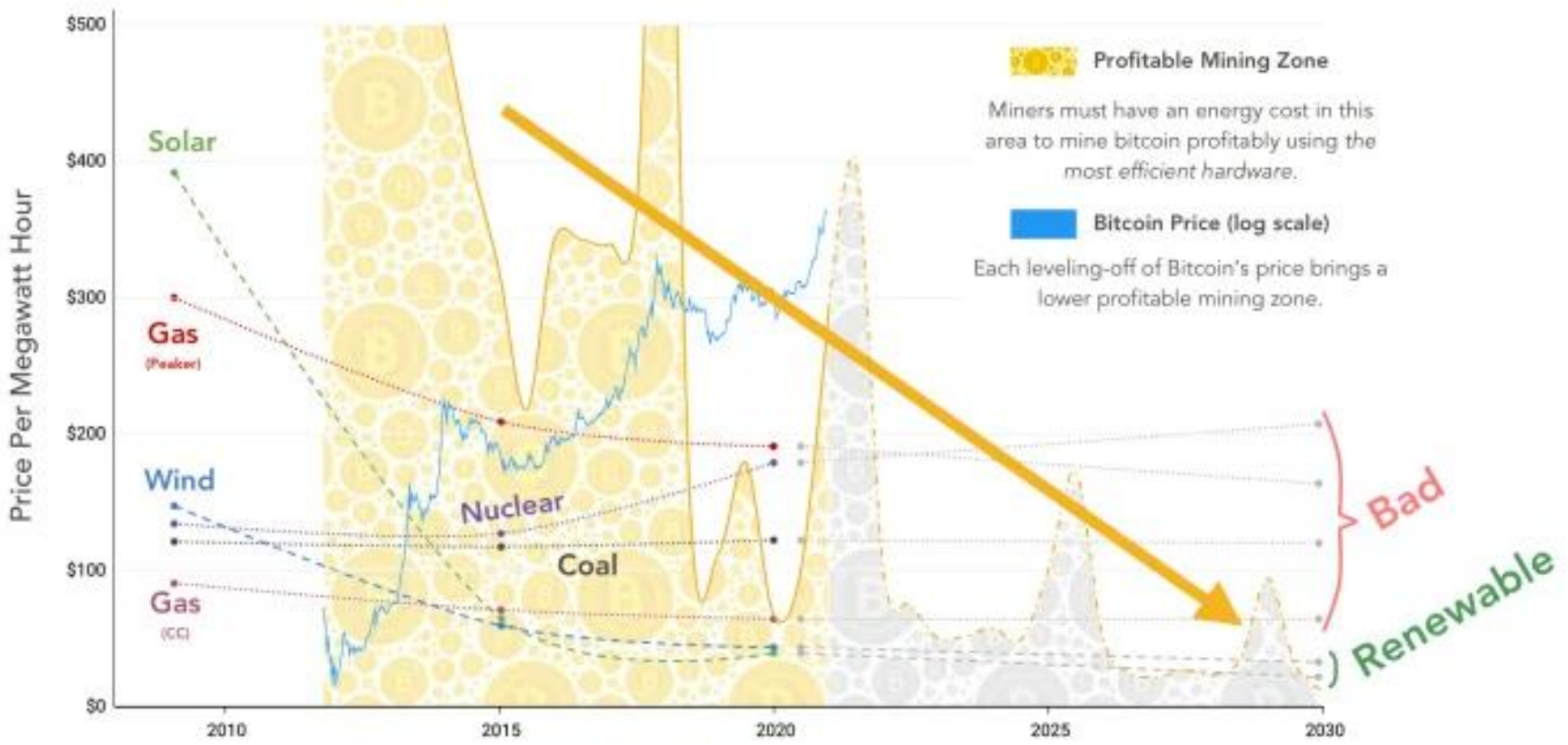
Global Electricity Consumption (Annualized)
Total = 20,863 Terrawatt Hours (TWh)



Source: Cambridge Centre for Alternative Finance

Miners Seek Cheaper Energy, Hence Renewables

The lower cost of renewable energies incentives miners to transition to using these sources



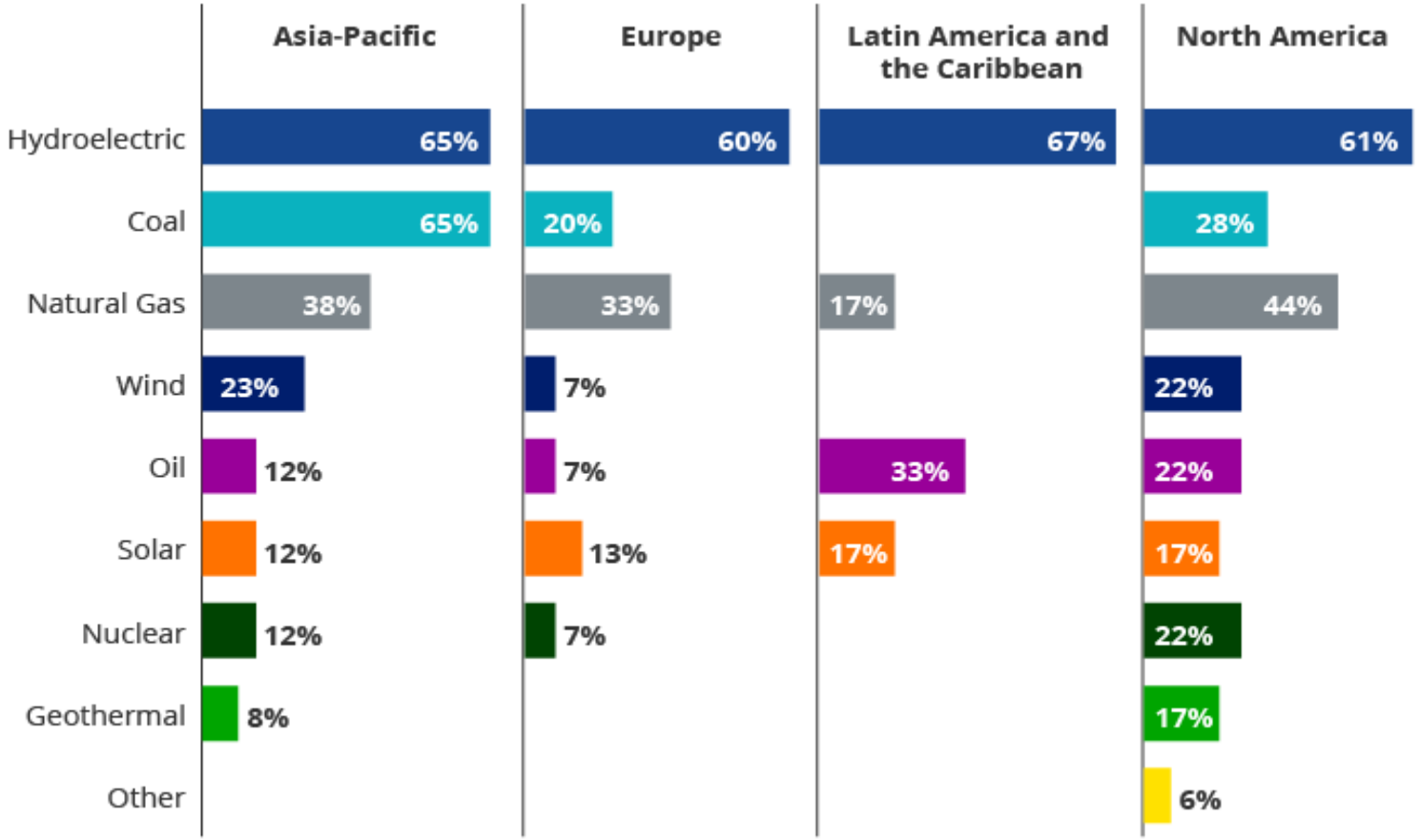
Renewable Energy Costs Declining

- Sources of energy such as gas, nuclear and coal are expensive and may eventually fall outside the profitability zone for miners and therefore be categorized as nonprofitable or "bad".
- Renewable energy sources such as solar and wind have costs that are projected to decrease.

Source: Lazard, OurWorldInData, Blockchain.com, ASICminervalue.com

North American Bitcoin Miners' Energy Sources Vary Widely

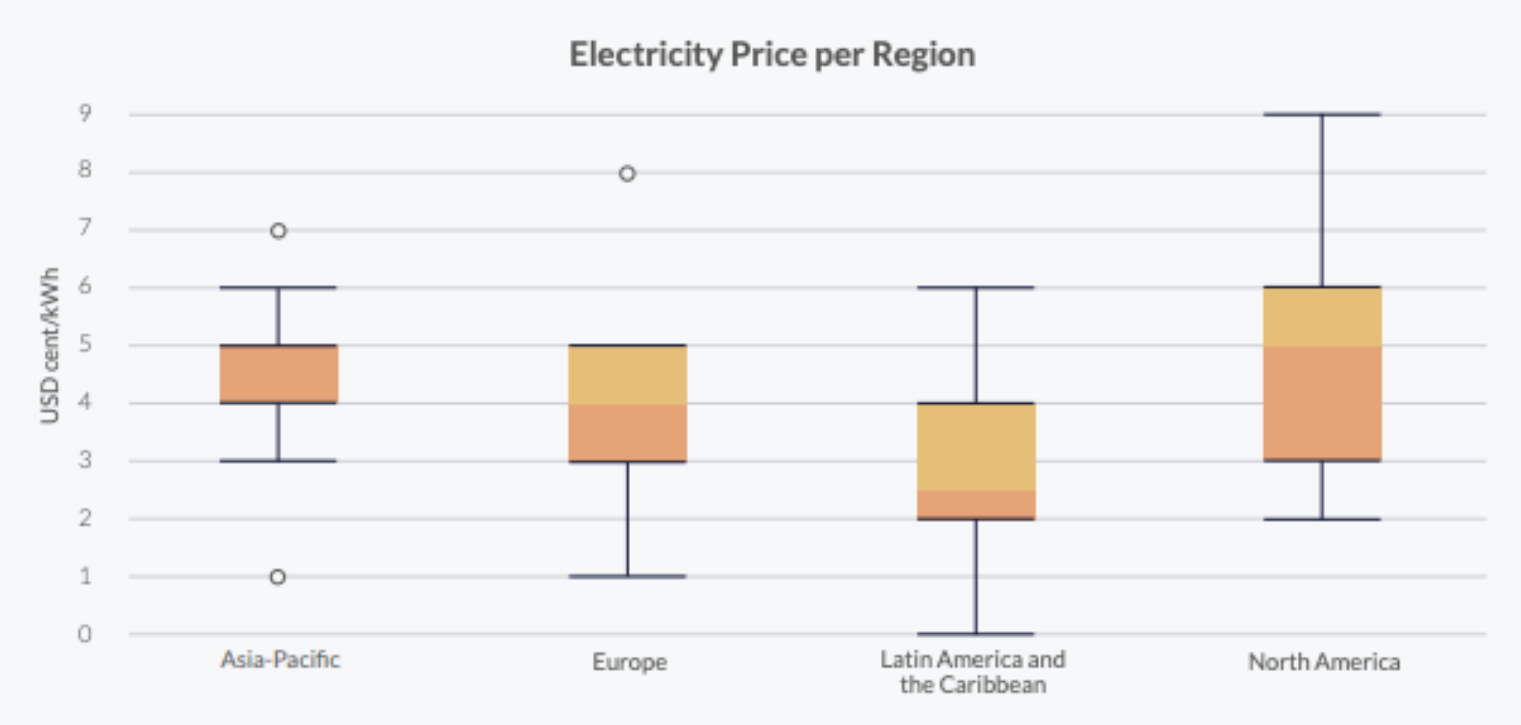
While hydroelectric dominates, it is not the only energy source



Source: Cambridge Centre for Alternative Finance. Percentages are not expected to add to 100% due to miners utilizing multiple types of energy sources.

North American & Asia-Pacific Miners Pay the Same Median Price

North American electricity prices vary most and Asia-Pacific vary least



The chart above is a box plot. It displays the five-number summary of a set of data. The five-number summary is the minimum, first quartile, median, third quartile, and maximum. Additionally, outliers are represented by the circles.
Source: Cambridge Centre for Alternative Finance

High Renewables Capacity Penetration Globally

The U.S. has room to grow its renewable capacity penetration

By the numbers, countries that have **more** or **less** favorable conditions than the global average

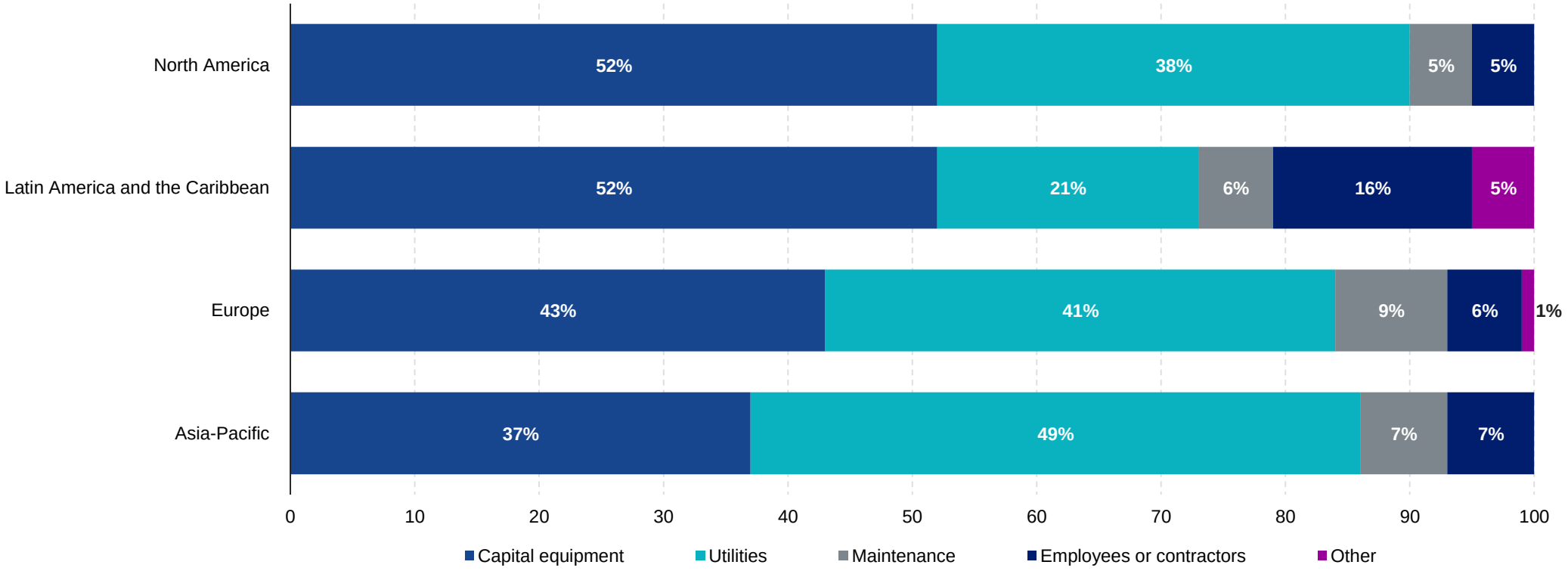
	Average Power Price/MWh	Renewable Capacity Penetration	Average Internet Speed Mbps	Ease of Doing Business	Average Temp in Celsius
Argentina	$ 93.50▲	34%▲	16▼	117▼	15.4▼
Austria	$ 149.00▼	74%▲	30▼	22▲	8.5▲
Australia	$ 129.00▼	29%▼	26▼	15▲	22.5▼
Canada	$ 61.30▲	70%▲	70▲	18▲	-4.9▲
Chile	$ 99.70▲	41%▲	35▼	55▲	8.6▲
China	$ 89.47▲	34%▲	64▲	78▲	7.6▲
Georgia	$ 47.41▲	75%▲	20▼	9▲	7.3▲
Iceland	$ 35.50▲	100%▲	146▲	23▲	3.7▲
Japan	$ 170.60▼	27%▼	78▲	34▲	11.9▲
Netherlands	$ 126.00▼	26%▼	81▲	32▲	11.6▲
Paraguay	$ 55.70▲	99%▲	7▼	108▼	24.3▼
Russia	$ 47.47▲	18%▼	37▼	35▲	-3.7▲
South Korea	$ 109.10▲	6%▼	133▲	4▲	12.5▲
Sweden	$ 121.50▼	65%▲	87▲	10▲	4.1▲
Switzerland	$ 43.70▲	82%▲	79▲	33▲	7.5▲
U.K.	$ 164.80▼	36%▲	52▲	7▲	10▲
U.S.	$ 107.80▲	20%▼	77▲	6▲	9.3▲
Uruguay	$ 195.30▼	44%▲	22▼	94▲	18.4▼

Source: Bloomberg New Energy Finance

Capital Equipment is a Significant Expense for Bitcoin Miners

The greatest expense for North and Latin American bitcoin miners is capital equipment

Cost Breakdown of Miners per Region



Source: Cambridge Centre for Alternative Finance

North America Leads the Pack in Renewable Mining

While Asia leads in total hashpower*, North America leads in green hashpower

	Regional average share of renewables (%)	Regional share of Bitcoin hashpower (%)	Regional weighted share of renewables in Bitcoin mining (%)
Asia-Pacific	26	77	20
Europe	30	10	3
Latin America and the Caribbean	20	1	0
Middle East and Africa	NA	4	NA
North America	63	8	5
Global	0	100	29

* Hashpower refers to the computational power that is used to mine and process transactions on a blockchain.
Source: Cambridge Centre for Alternative Finance

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Important Disclosures

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Investing in cryptocurrencies comes with a number of risks, including volatile market price swings or flash crashes, market manipulation, and cybersecurity risks. In addition, cryptocurrency markets and exchanges are not regulated with the same controls or customer protections available in equity, option, futures, or foreign exchange investing. There is no assurance that a person who accepts a cryptocurrency as payment today will continue to do so in the future.

Investors should conduct extensive research into the legitimacy of each individual cryptocurrency, including its platform, before investing. The features, functions, characteristics, operation, use and other properties of the specific cryptocurrency may be complex, technical, or difficult to understand or evaluate. The cryptocurrency may be vulnerable to attacks on the security, integrity or operation, including attacks using computing power sufficient to overwhelm the normal operation of the cryptocurrency's blockchain or other underlying technology. Some cryptocurrency transactions will be deemed to be made when recorded on a public ledger, which is not necessarily the date or time that a transaction may have been initiated.

- Investors must have the financial ability, sophistication and willingness to bear the risks of an investment and a potential total loss of their entire investment in cryptocurrency.
- An investment in cryptocurrency is not suitable or desirable for all investors.
- Cryptocurrency has limited operating history or performance.
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VanEck Investor Series: An introduction to Bitcoin mining

Jason Les, Chief Executive Officer & Director

April 19, 2021

Forward looking statements

The information provided in this presentation may include forward-looking statements within the meaning of the federal securities laws, including as to the completion and effects of the contemplated acquisition by Riot Blockchain, Inc. (the “Company” or “Riot”) of Whinstone US, Inc. (“Whinstone US” or “Whinstone”) and the future financial performance and operations of the Company. Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. Words such as “anticipates,” “believes,” “plans,” “expects,” “intends,” “will,” “potential,” “hope” and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based upon current expectations of the Company and involve assumptions that may never materialize or may prove to be incorrect. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties.

These forward-looking statements include, but are not limited to, statements about the benefits of the contemplated acquisition of Whinstone US, including financial and operating results, and the Company’s plans, objectives, expectations and intentions. Among the risks and uncertainties that could cause actual results to differ from those expressed in the forward-looking statements are: (1) the satisfaction or waiver of the conditions precedent to the consummation of the contemplated acquisition, including receipt of required regulatory clearances; (2) the occurrence of any event, change or other circumstance that could give rise to the termination of the definitive purchase agreement; (3) unanticipated difficulties or expenditures relating to, of the failure to realize the benefits of, the contemplated acquisition; (4) legal proceedings, judgments or settlements in connection with the contemplated acquisition; (5) disruptions of current plans and operations caused by the announcement and pendency of the contemplated acquisition; and (6) the response of employees, customers, suppliers, business partners and regulators to the announcement of the contemplated acquisition.

Detailed information regarding other factors that may cause actual results to differ materially from those expressed or implied by statements in this presentation may be found in the Company's filings with the U.S. Securities and Exchange Commission (the “SEC”), including in the sections entitled “Risk Factors” and “Cautionary Note Regarding Forward-Looking Statements” of the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2020, which was filed with the SEC on March 31, 2021, copies of which may be obtained from the SEC's website at www.sec.gov. The Company does not undertake any obligation to update forward-looking statements contained in this presentation.

Presenter

Jason Les

Chief Executive Officer

- CEO (2021) & Director (2017)
- Driving force behind Riot's mission to become one of the most relevant and significant companies supporting Bitcoin.
- Deeply involved in Bitcoin since 2013.

Riot: A leader in US Bitcoin mining

- Publicly-traded, Nasdaq-listed.
- Mining Bitcoin since 2017.
- Active fleet of 16,000 miners growing to 80,000 deployed miners by Q4 2022.
- One of largest Bitcoin mining fleets currently in the market.
- Recent announced acquisition of 750 MW mining facility.
- Riot aims to be the largest US producer of Bitcoin, and an industry-cost leader.

Intro to cryptocurrency and Bitcoin

- A **cryptocurrency** uses **cryptography** to **secure** and **verify** transactions on a distributed network.
- Cryptocurrencies use a **blockchain** as the data structure that serves as the public ledger of all transactions.
- **Bitcoin** is the dominant cryptocurrency with a US$1.2 trillion market capitalization.
- Bitcoin is **de-centralized** – i.e. it is not controlled by any one person, entity or government (as compared to fiat currencies).
- Bitcoin has the **strongest**, **most secure**, and **most decentralized** network of all cryptocurrencies.

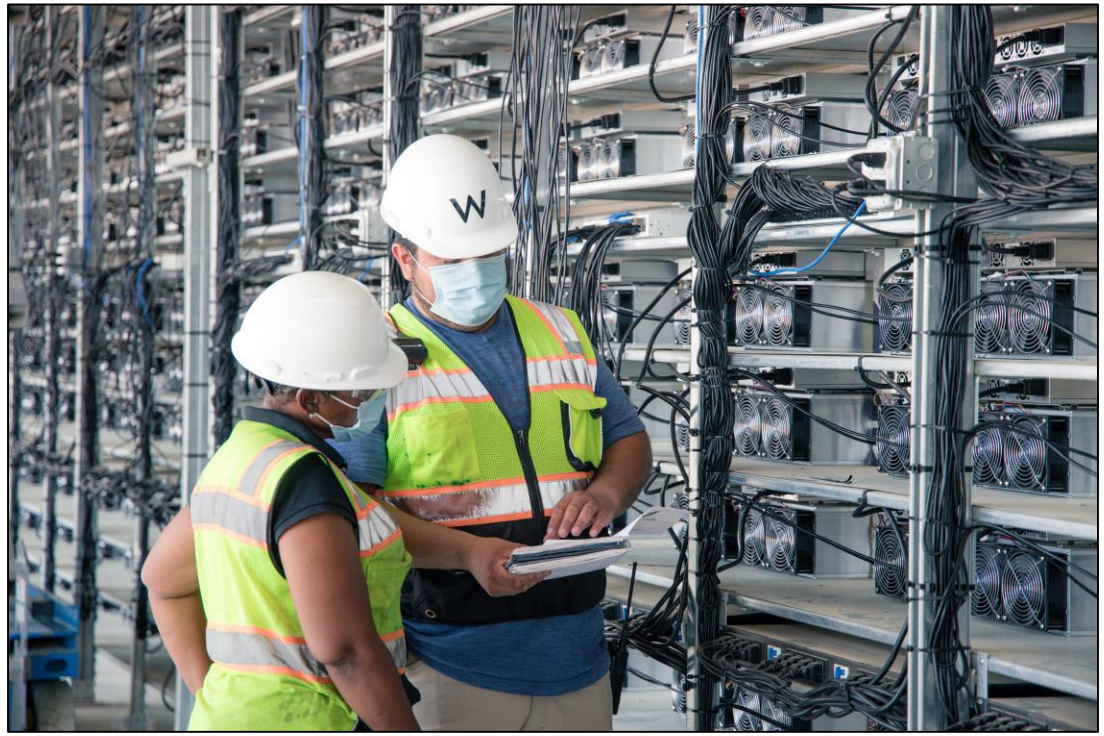
Intro to Bitcoin mining

- Bitcoin mining is the process of repeatedly guessing inputs into an algorithm until the desired output is observed. Miners compete to get this output, which results in a reward.
- The primary purpose of mining is to set the history of transactions in such a way that is computationally impractical to modify by any one entity.
- Bitcoin adds new transactions, in a data structure called blocks, to its blockchain approximately every 10 minutes.
- Bitcoin needs a network-wide agreement on the shared transaction history, including transaction ordering.
- Bitcoin mining has evolved from early adopters on their laptops, to hobbyists in their basements, to large-scale industrial operations owned and operated by publicly traded companies.
- Despite volatility, Bitcoin mining continues to be a profitable venture for those with operational know-how and access to low variable-cost structures.

Riot Blockchain's recently announced acquisition of Whinstone U.S., a 100-acre, 750 MW Bitcoin mining facility in Rockdale, Texas

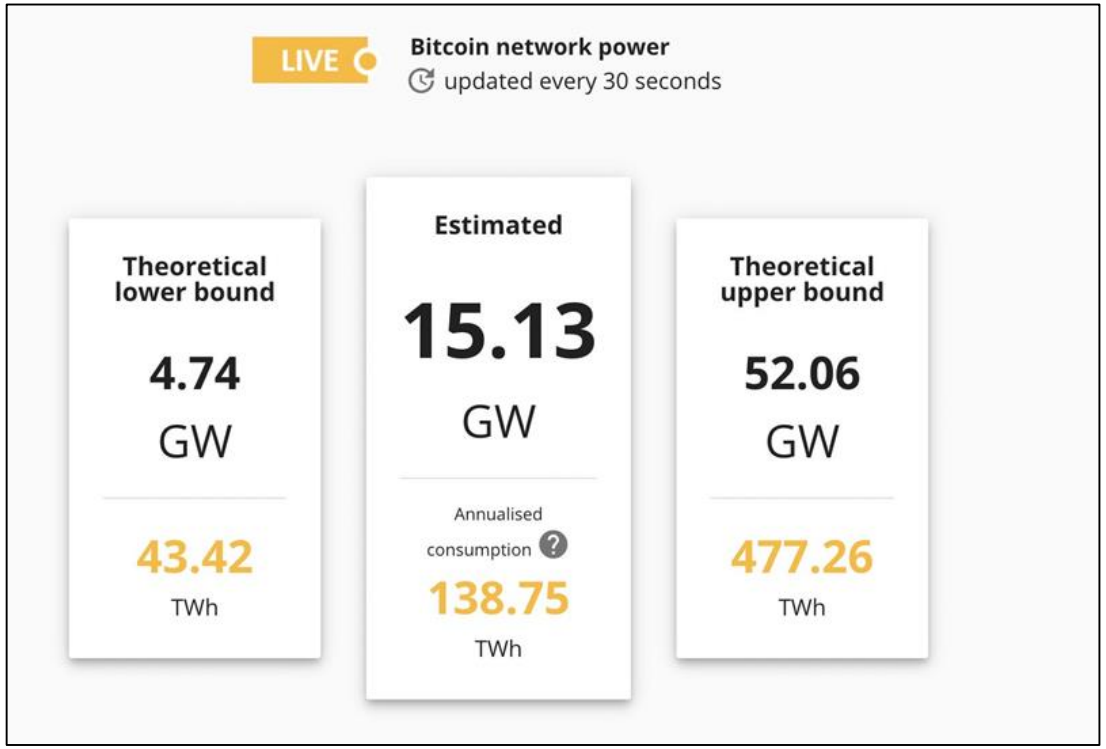
Bitcoin’s relationship with electricity

- Bitcoin mining uses electricity to objectively, and independently from the system itself, verify that a certain amount of time has passed between each new block.
- Because electricity is a scarce and non-forgeable resource, counterfeiting and tampering with Bitcoin’s public ledger is prohibitively costly.
- Bitcoin’s electricity input contributes to its security – e.g. an attacker would need more electrical energy than the entire network itself to attempt an attack.
- Bitcoin’s consumption of electrical energy is therefore a positive, not a negative.
- Bitcoin uses electrical energy to create a global, free, censorship-resistant and politically independent monetary system.



Bitcoin mining and ESG (1 of 2)

- 76% of Bitcoin miners utilize renewable energy as a part of their energy mix with renewable energy accounting for approximately 40% of the overall energy mix.*
- Bitcoin miners seek to minimize their electricity costs. Globally, Bitcoin miners congregate to areas with the cheapest electricity.
- Bitcoin miners collectively act as a global electricity buyer of last resort – therefore tend to cluster around comparatively under-utilized renewables infrastructure.
- Bitcoin mining's utilization of renewable energy far exceeds the averages seen in other commercial or industrial power loads.
- Current estimates are that Bitcoin uses approximately 15.13 gigawatts of electricity or 139 terawatt hours on an annualized basis. In comparison, the global aluminum smelting industry uses approximately 900 terawatt hours per year.



Cambridge Bitcoin Electricity Consumption Index

* Source: Cambridge Analytica 2020 report

Bitcoin mining and ESG (2 of 2)

- Bitcoin Miners actively seek renewable energy sources. By increasing demand for renewable energy production, costs over time are reduced for the public.
- Bitcoin mining helps solve the problem of excess production of renewable energy – e.g. when more energy is produced than there is market demand for.
- In markets like Texas' ERCOT, flexible loads like Bitcoin mining can serve as a demand response resource.
- The ERCOT grid is a model environment for renewable generation sources.
- Unsubsidized, levelized cost of wind and solar power generation has been decreasing substantially over the past ten years.
- The above-mentioned factors, combined with West Texas being an ideal environment for solar and wind generation, is driving a substantial year over year increase in renewable generation interconnection.

Riot’s operations in Massena, NY

- Riot’s mining fleet is hosted at Coinmint, LLC’s hosting facility in Massena, NY. Riot moved its entire fleet from Oklahoma City to Massena in 2020.
- Coinmint’s facility is a former Alcoa smelting operation with 435 MW in total capacity, of which 50 MWs is utilized by Riot.
- Energy supplied by Zone D of the NYISO grid.
- 88% of Coinmint’s electricity generation from zero-emission sources.
- Low carbon footprint and low-cost and lower average daily temperature, supporting miner longevity and profitability.
- Riot’s estimated mining hash rate capacity represents approximately 1% of the total network hash rate.*

Coinmint, LLC’s hosting facility in Massena, NY

* Riot’s estimated mining hash rate capacity will reach approximately 1.6 EH/s during April 2021. Total Bitcoin network hash rate is currently estimated to be approximately 160-170 EH/s.

Is Bitcoin the future?

The potential shift: a complete re-invention of global finance.

A new store of value
(e.g. better version of gold)

A global currency &
unit of account

A savings-oriented vs.
consumption-oriented economy

Significant long-term implications for nation states & central banks

VanEck Investor Series: An introduction to Bitcoin mining

For more information, please contact:

IR@riotblockchain.com