

LETTER TO THE GOVERNMENT

BITCOIN FOR INDONESIA

Addressed to:
President Joko Widodo,
Dr. I Wayan Koster &
Government Representatives

Authors:
Diana Baudach &
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Dear Mr. President Joko Widodo, Dear Government Representatives,

We kindly ask you to read the following pages with attention, as this topic is an **issue of national security** and crucial for the future of Indonesia.

Imagine a world in which Indonesia, unlike the rest of the world, would have closed themselves to the **great innovations of human history**. A world in which Indonesia, for example, would not have taken advantage of the potential of the Internet, would not have built a digital economy, and would therefore be **completely defeated in international comparisons** today. This idea is frightening and ridiculous at the same time, right?

Now imagine that Indonesia is about to make an equally **fatal decision with the next big innovation** (i.e. the monetary system of the future). In 2018, Indonesia has banned Bitcoin payments - while more and more governments, institutions, businesses, and people around the world **adopt and use this new monetary system to their advantage**. We are deeply concerned about the harm this ban will do to Indonesia's position in global affairs and its citizens. At the same time, we are full of optimism that Indonesia will **embrace the potential of this new technology** and become the **superpower in Asia**.

With this document, we would like to take the chance to **share important knowledge, clear up misconceptions, highlight the valuable opportunities that Bitcoin offers to Indonesia, and warn you about a new form of war**.

Bitcoin is the biggest innovation since the Internet. However, the most important difference is that the Bitcoin adoption rate is much higher than the Internet. You can try to ban Bitcoin in your country, but it will not work. This innovation is **tremendously fast and truly unstoppable**. You really do not want to be left behind.

It is not a question of *IF* Indonesia will adopt Bitcoin, but rather *WHEN*. And the sooner Indonesia understands this, the greater the **benefits** will be for the Indonesian government, the economy, and the people.

Sincerely,
Diana Baudach and Marius M. Hubrig

**Yth. Bapak Presiden Joko Widodo,
Yth. Para Bapak/Ibu Jajaran Perwakilan Pemerintah,**

Dengan hormat kami memohon perkenan Bapak/Ibu untuk membaca proposal yang telah kami susun dengan seksama. Kami percaya bahwa topik yang kami ajukan berkenaan dengan masalah keamanan nasional dan sangat penting bagi masa depan Indonesia.

Dapatkan Bapak/ibu bayangkan sebuah dunia di mana Indonesia, tidak seperti negara-negara lain, akan menutup diri terhadap **inovasi-inovasi besar dalam sejarah umat manusia**. Sebuah dunia di mana Indonesia, misalnya, tidak memanfaatkan potensi luar biasa internet atau ekonomi digital dan karenanya tertinggal jauh dalam persaingan global saat ini. Tentu saja ide ini menakutkan, sekaligus konyol, bukan?

Sekarang bayangkan jika Indonesia akan membuat **keputusan yang dapat berakibat fatal** karena menutup diri dari inovasi besar berikutnya, dalam hal ini, sistem moneter masa depan. Pada tahun 2018, Indonesia telah melarang penggunaan Bitcoin sebagai alat pembayaran. Sementara itu, di saat yang bersamaan semakin banyak pemerintah, institusi, bisnis, dan orang-orang di seluruh dunia yang **mengadopsi dan menggunakan sistem moneter baru ini untuk meraup keuntungan**. Kami sangat prihatin dengan kerugian yang akan ditimbulkan oleh pelarangan ini terhadap posisi Indonesia dalam persaingan global. Pada saat yang sama, kami sangat optimis bahwa Indonesia akan **merangkul potensi teknologi baru ini** dan menjadi **negara adidaya di Asia**.

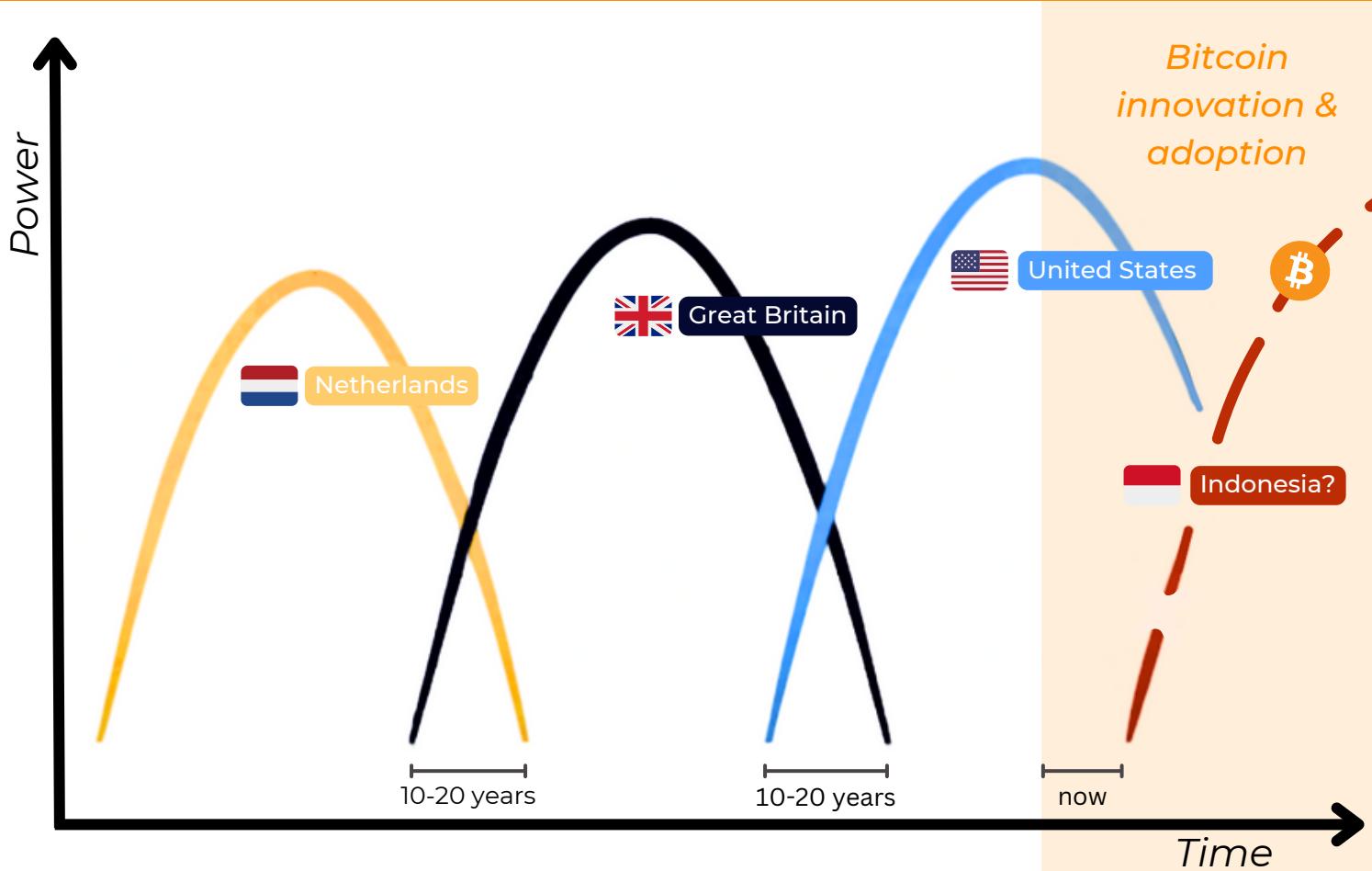
Melalui dokumen ini, kami ingin mengambil kesempatan untuk **berbagi pengetahuan penting, menjernihkan kesalahpahaman, serta menyoroti peluang berharga yang ditawarkan Bitcoin kepada Indonesia** dan memperkenalkan Bapak/Ibu tentang bentuk perang baru di masa ini.

Bitcoin adalah **inovasi terbesar sejak Internet**. Namun, perbedaan yang paling penting adalah tingkat adopsi Bitcoin jauh lebih tinggi daripada Internet. Kami khawatir bahwa pelarangan Bitcoin sebagai alat pembayaran justru akan merugikan Indonesia. Inovasi ini **sangat cepat dan benar-benar tak terbendung**. Kami yakin bahwa Bapak/Ibu pasti tidak ingin Indonesia tertinggal dalam inovasi tersebut.

Ini bukan masalah **JIKA**, melainkan **KAPAN** Indonesia akan mengadopsi Bitcoin. Semakin cepat masyarakat Indonesia memahami hal peluang ini, maka semakin besar manfaatnya secara keseluruhan bagi Indonesia.

Hormat kami,
Diana Baudach dan Marius M. Hubrig

BITCOIN CAN CHANGE THE WORLD ORDER



WILL INDONESIA TAKE THE HISTORIC CHANCE TO
BECOME THE GLOBAL LEADER?

OVERVIEW

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OBJECTIVES

THIS IS WHAT YOU WILL LEARN

- What is Bitcoin and why is it per definition the **best money in human history?**
- Why is Bitcoin halal and spreads the Shariah-compliant idea for money globally?
- Why is it so dangerous for countries to ban and ignore Bitcoin?
- How can Bitcoin enable Indonesia to break free from existing financial and political dependencies?
- How can Bitcoin provide a sustained boost to Indonesia's GDP?
- How can Bitcoin strengthen the Indonesian banking system?
- Why is Bitcoin good for the environment and helps to reach the SDG goals?
- What can you do as a government representative to make Indonesia become a superpower?

... and much more

QUOTES

WHAT EXPERTS SAY ABOUT BITCOIN

"BITCOIN IS *PERFECT MONEY FOR THE INTERNET. IT IS INSTANT, IT IS SAFE, IT IS FREE.* AT ITS CORE, BITCOIN IS A *GREAT TECHNOLOGY THAT WILL CHANGE THE WORLD FOREVER.*"

Andreas Antonopoulos, Tech Entrepreneur and Author

"AS A STORE OF VALUE BITCOIN IS *THE MOST PRISTINE AND HARDEST MONEY AND ASSET THAT MANKIND HAS EVER CREATED,* BUT FOR THE DEVELOPING WORLD IT COULD BE *LIFE CHANGING.*"

Lord Fusitu'a, Former Member of Parliament for the Niuas

"BITCOIN IS NOT JUST A NEW FORM OF MONEY, IT IS A *NEW FORM OF WARFARE.* BITCOIN IS A *NATIONAL STRATEGIC IMPERATIVE.*"

Jason Lowery, US Space Force Engineer and US National Defense Research Fellow at MIT

BASICS

- Bitcoin is a **digital peer-to-peer electronic cash system¹**, i.e. it brings the features of **cash money** into the digital world.
- Bitcoin is **money** that everyone can use to ...
 - make **daily transactions** (e.g. to buy food at a local warung or to buy goods online at tokopedia) and
 - **store value** (e.g. to save money for the future).
- One distinguishes between **Bitcoin** (the overarching concept and network) and **bitcoin** (the currency).
- Bitcoin is the **first and only decentralized currency** that allows people to **transfer value and make payments online in a secure way without the need of third-party intermediaries**, such as banks and credit agencies.
- Bitcoin uses a **blockchain** as a **public ledger of all transactions** and the **proof-of-work algorithm** to secure the network.²
- Bitcoin runs consistently for more than 10 years without any interruption. Bitcoin's **uptime of 99.98%³** is ...
 - higher than Facebook's,
 - higher than Google's,
 - higher than the US government's, and
 - higher than the Indonesian government's uptime.
- Bitcoin is the **most secure network** in the world.

BASICS

The first wonderful thing about Bitcoin is that it is so **diverse** and **profound**. It combines many different areas of our lives and there is so **much to explore and learn** in each of these areas. In short, to understand Bitcoin to the last detail, you need to learn a lot.



Figure 1: The different areas of Bitcoin

The second wonderful thing about Bitcoin is that it is **so easy** everyone can use it. You do not need very much knowledge or skills to use Bitcoin. Thanks to the many applications that have already been developed, it is **very straightforward and intuitive** (see next page).

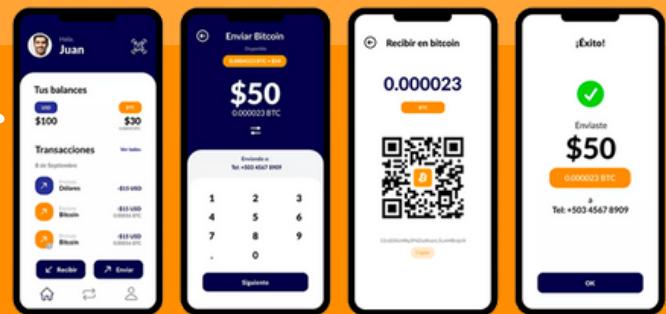
You can compare it with sending e-mails. Nowadays, almost no one knows how to set up an e-mail server, what IMAP, POP3 and IPv6 protocols are, or what generally happens in the background from a technical point of view. But we are all able to type some letters into a text field and click on "send".

DEEP DIVE: EASY PAYING WITH BITCOIN

1

Download a Bitcoin app of your choice and top up your digital wallet.

See, for example "Chivo", the Bitcoin app provided by the government of El Salvador.



2

Scan the QR code of the invoice that the merchant has generated for you.

The invoice can also be generated automatically (see e.g. this McDonald's store in El Salvador).⁴



3

Check and confirm the payment on your smartphone (e.g. press "send").



4

Within a second, the money is transferred to the receiver and the payment is done.

Bitcoin payments can also be made with credit cards, computers, "hardware wallets" or "paper wallets", and in many other ways.



BITCOIN'S PREHISTORY

- Bitcoin was invented in 2008, however, it is the result of over 40 years of computer science research and development.

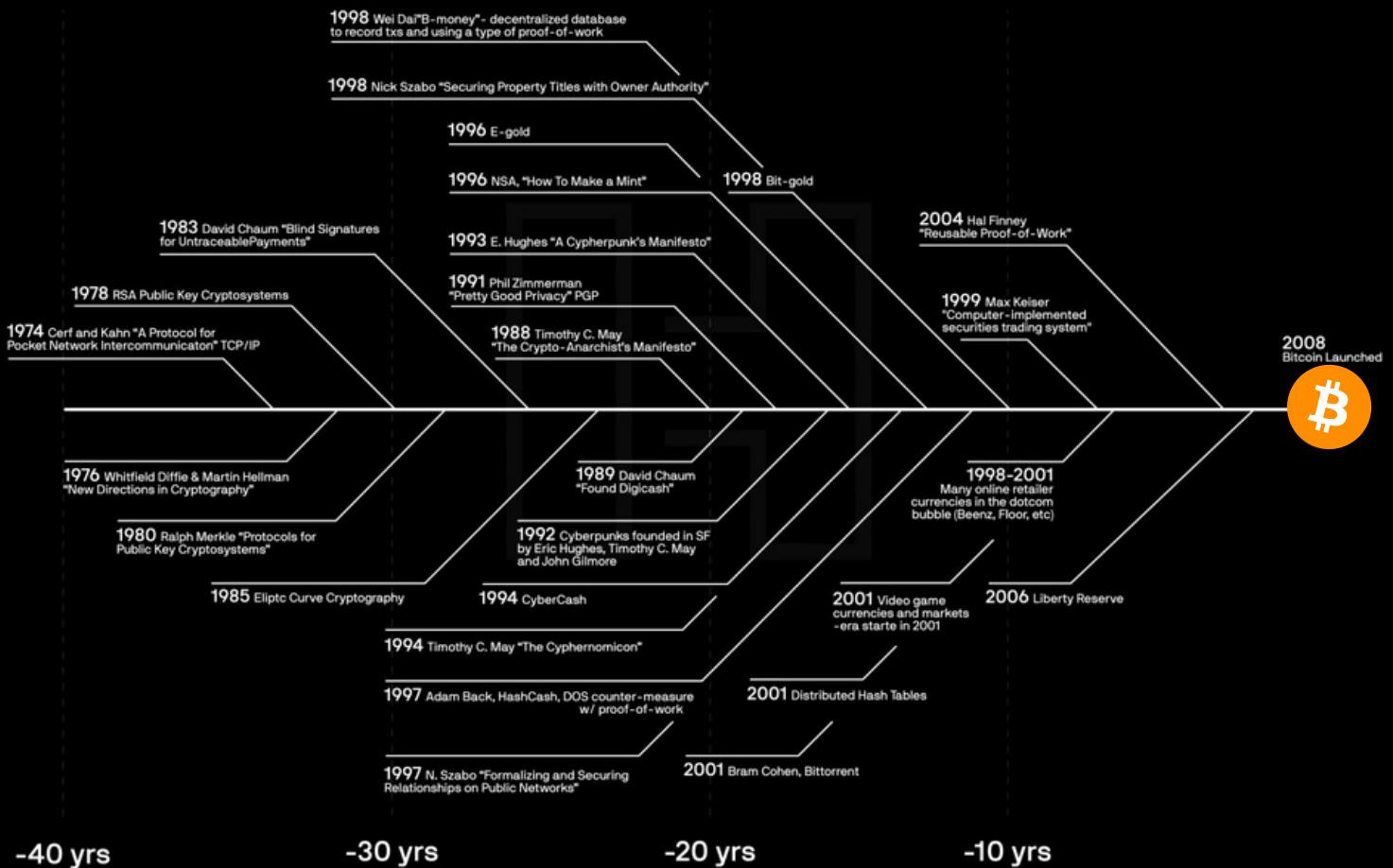


Figure 2: The prehistory of Bitcoin - A result of 40 years research, development, and demand⁵

- The **Bitcoin whitepaper** is the original scientific paper written under the pseudonym Satoshi Nakamoto on October 31, 2008.⁶



SOLID MONETARY SYSTEM

Bitcoin is per definition the best money in human history. Here is why: Compared to fiat money or gold, Bitcoin excels in almost all qualities of money.⁷

- **Durability:** Bitcoin comes in digital form and cannot degrade over time unlike physical objects, paper notes, and coins.
- **Portability:** Bitcoin can be transferred from one place to another at the speed of light as it is purely digital, has no weight, takes up no physical space, and does not have to take detours through intermediaries.
- **Divisibility:** 1 bitcoin can be divided into 100.000.000 satoshis (like 1 US Dollar equals 100 Cents), which makes it easy to use even for micro-transactions.
- **Fungibility:** Every bitcoin is the same. There is no difference in quality, size, or value.
- **Scarcity:** Bitcoin has a fixed supply of 21 million bitcoins, thus, it is protected from inflation and becomes more valuable over time (unlike the fiat system - see page 26).
- **Acceptability:** Bitcoin is already widely accepted to pay for goods and services and is recognized as a (future) global currency.
- **Security:** Bitcoin uses advanced cryptography to secure transactions and prevent fraud and counterfeiting.

SOLID MONETARY SYSTEM

Qualities of Money	Bitcoin	Gold	Fiat
<i>Durability</i>	Moderate	High	Low
<i>Portability</i>	High	Low	High
<i>Divisibility</i>	High	Low	Moderate
<i>Fungibility</i>	High	High	High
<i>Scarcity</i>	High	Moderate	Low
<i>Acceptability*</i>	Moderate	Low	High
<i>Security*</i>	High	Moderate	Low
<i>Verifiability</i>	High	Moderate	Moderate
<i>Established history</i>	Low	High	Low
<i>Censorship resistance</i>	High	Moderate	Low
<i>Unforgeable costliness</i>	High	High	Low
<i>Open programmability</i>	High	Low	Low
<i>Decentralization</i>	High	Moderate	Low

Figure 3: Comparison of Bitcoin, gold, and fiat money qualities⁸ - *added by the authors

SOLID MONETARY SYSTEM

In addition to its high quality, there are **benefits** like:

- **Decentralization:** Bitcoin is not controlled by any government, financial institution, or any other single party. This makes it less subject to manipulation or interference.
- **Open network:** Bitcoin is open, permissionless, and global. It works the same everywhere and is for everybody, thus, it improves financial inclusivity.
- **Speed and efficiency:** Bitcoin transactions are generally faster than traditional financial transactions and they can be processed 24/7. A settlement happens within seconds while it can take months to settle a fiat transaction.
- **(Almost) zero fees:** Bitcoin transactions have much lower fees than traditional financial institutions, which is beneficial for users who make frequent, small, or large transactions.⁹

COMMON MISCONCEPTIONS

“Bitcoin is just a speculation.”

False. Because bitcoins increase in value over time due to their finite nature in a growing economy, it is **not beneficial to buy and sell quickly** (i.e. to speculate). Moreover, Bitcoin provides tremendous value to our society which will not suddenly vanish into thin air. Rather, the **price fluctuations can be explained by Bitcoin's early stage as well as the current lack of knowledge** of many people.

“Bitcoin is like any other cryptocurrency.”

False. Bitcoin is a **revolution of money**. It is the **first and only decentralized digital money system** that has managed to solve the problem of double spending. All other cryptocurrencies are not decentralized, pose a high investment risk, and should be considered **securities** (see e.g. USA: Bitcoin is classified as a commodity, while all other cryptocurrencies are considered securities).¹⁰

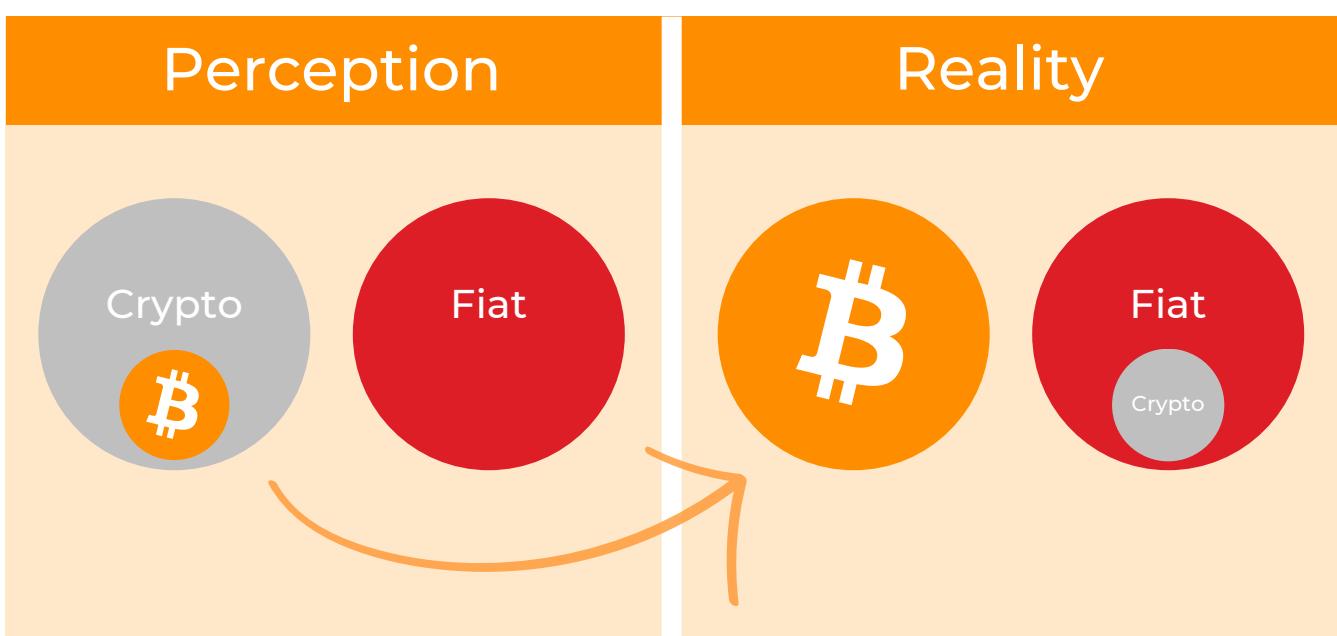


Figure 4: Perception vs. reality of Bitcoin affiliation

COMMON MISCONCEPTIONS

"Bitcoin mining is bad for the environment and wastes energy."

False. The energy is used to secure the network, so it is not wasted, but adds tremendous value. Bitcoin also uses much less energy than our current global financial system or the gold mining industry. It is the greenest industry in the world with the highest percentage of renewable energy. Moreover, Bitcoin miners have an economic incentive to increase the share of renewable energy even more and can help to stabilize the power grid in times of overproduction. Bitcoin mining fosters and accelerates the expansion of renewable energies worldwide¹¹ (see deep dive on pages 12-16).

GLOBAL BITCOIN MINING HAS THE HIGHEST SUSTAINABLE ENERGY MIX

SUSTAINABLE POWER MIX: BITCOIN MINING VS COUNTRIES (% OF TWh)

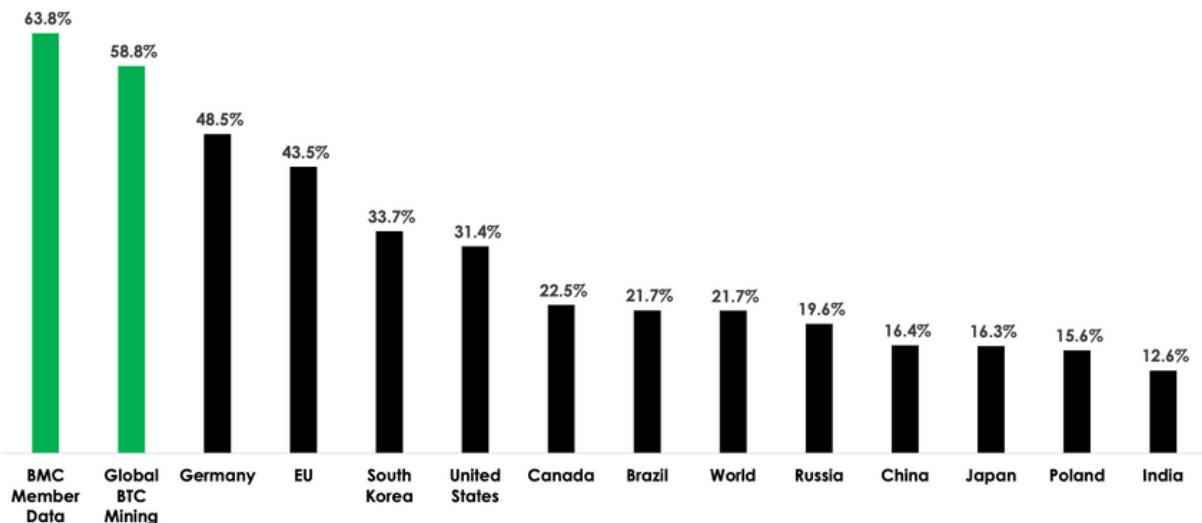
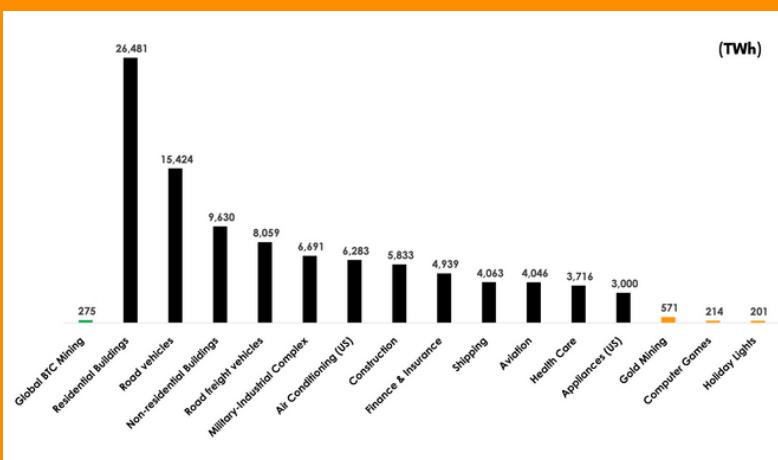


Figure 5: Sustainable power mix - Bitcoin mining vs. countries¹²

DEEP DIVE: BITCOIN MINING

- Energy consumption is not bad in general. On the contrary, if energy is consumed and paid for to provide a benefit, then this is actually a sign of civilization's advancement.
- Bitcoin mining is only profitable at a price around IDR 735.00/kWh (USD 0.05/kWh).¹³ This price is almost exclusively offered for overproduced electricity that has no other demands. The average price per kWh in Indonesia is IDR 1,444.70 for households and IDR 1,114.74 for businesses (USD 0.098 & USD 0.076).¹⁴ Thus, Bitcoin miners only use energy no one else wants.
- Relatively speaking, the energy consumption of Bitcoin mining is much lower than is often suggested in the media headlines. See these graphs for comparison:

GLOBAL BITCOIN MINING VS. OTHER INDUSTRIES (2021/2022)



BITCOIN MINING ENERGY USE VS. TOTAL GLOBAL ENERGY USE

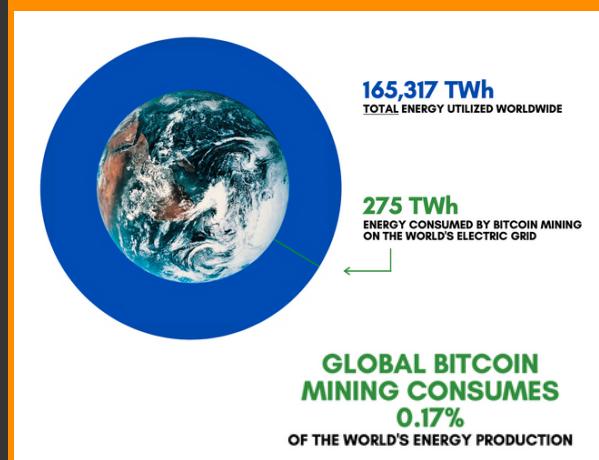


Figure 6: Global Bitcoin mining vs. other industries¹⁵

Figure 7: Bitcoin's consumption of energy¹⁶

DEEP DIVE: BITCOIN MINING

- The energy used in the proof-of-work process (mining) is an **important feature** of Bitcoin, because it resembles a **physical protective shield** that **safeguards the monetary value stored in the network**.
- The **more energy** we use to secure it, the **better protected** the network (i.e. its stored value) is from attacks. And the better protected the network is, the **more value** we can store in it.

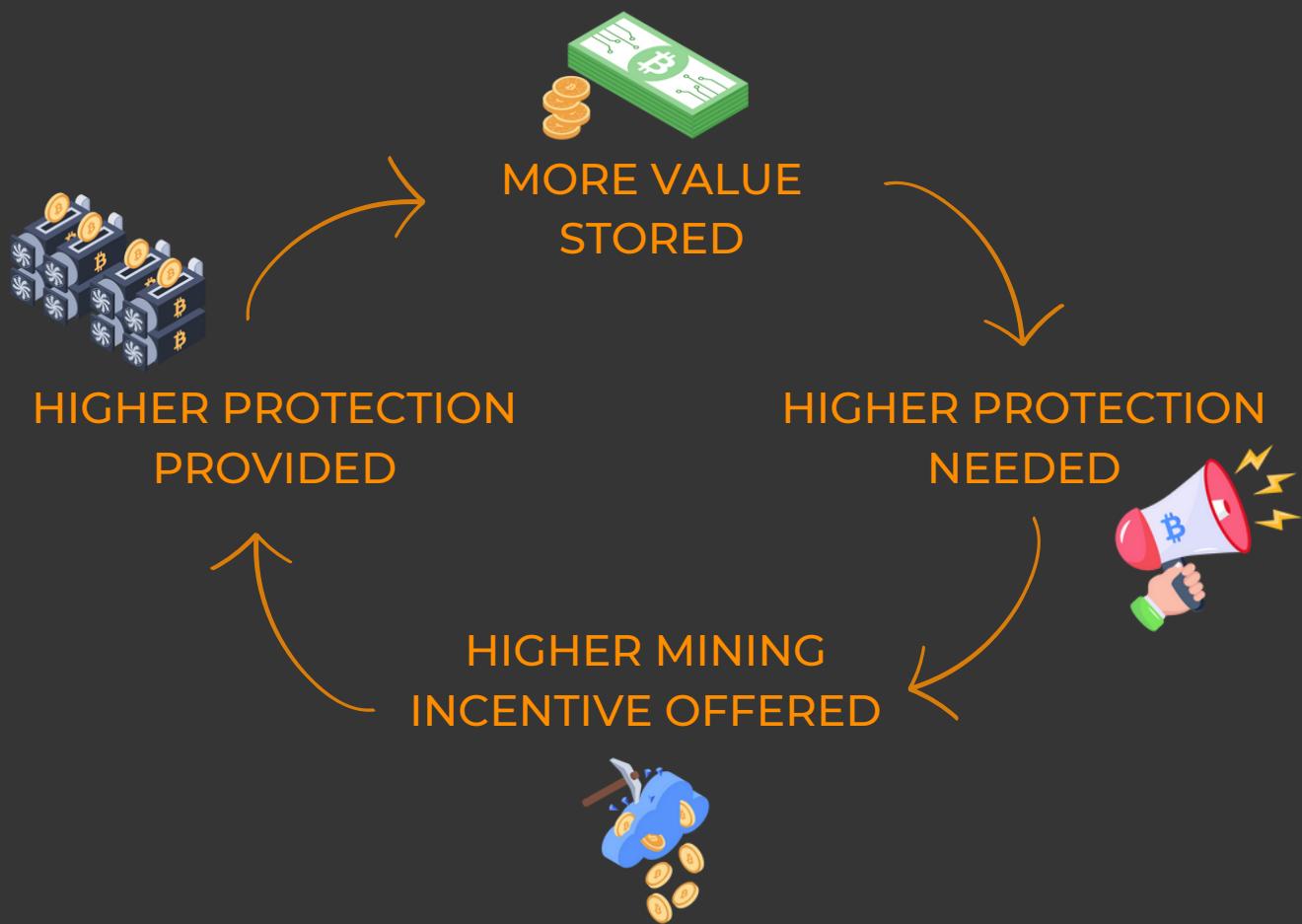


Figure 8: Store of value protection through proof-of-work mining¹⁷

DEEP DIVE: BITCOIN MINING

As shown, Bitcoin mining is a **physical security mechanism** that protects the value stored in the Bitcoin network from attacks. The **Benefit-Cost Ratio of Attack** illustrates the importance of this high-energy process.¹⁸

$$\frac{\text{Benefit of Attack } (B_A)}{\text{Costs of Attack } (C_A)} = \text{Benefit-Cost Ratio of Attack } (BCR_A)$$

*If benefits > costs, attack is advantageous for the attacker
If costs > benefits, attack is disadvantageous for the attacker*

Figure 9: Formula of Benefit-Cost Ratio of Attack¹⁹

Here are two examples:



The benefit for the lion to attack the zebras is to obtain food, but it costs a lot of effort to catch one of the zebras if they form a strong horde.
= negative BCR_A



Instead, the lion attacks the weakened and lonely zebra, because then he gets the same amount of meat by spending less of his energy resources.
= positive BCR_A

The same logic applies to Bitcoin:

- We need to **keep the costs for an attack high** to make an **attack disadvantageous**.
- These high costs of attack are reflected in the **extensive amount of physical energy** an attacker would have to expend to breach the Bitcoin network.
- The costs for the energy and all the mining hardware would be higher than the monetary value he could gain.

DEEP DIVE: BITCOIN MINING - INDONESIA



ex Governor of West Java, Ridwan Kamil



THE INDONESIA BITCOIN MINING CAMPAIGN

- The Indonesian government is researching various ways in which Bitcoin adoption in the country could benefit its people.
- The specific environment makes Indonesia a potential major player in the Bitcoin mining space.

"Indonesia has the **second most geothermal potential in the world** — more than 800 rivers with hydropower. As Bitcoin allows the transformation of **energy into money**, **Bitcoin could be transformative for Indonesia.**"

"The new generation is buying Bitcoin as a reserve. The country is already on a steady path towards adoption, with more than 12 million cryptocurrency investors, 70% of which are invested in bitcoin."

"Hopefully **Indonesia will be a Bitcoin heaven in the future.**"

Figure 10: Governor Ridwan Kamil and "The Indonesia Bitcoin Mining Campaign"²⁰

DEEP DIVE: BITCOIN MINING - INDONESIA

Bitcoin mining allows the **transformation of energy into money**. Indonesia can use its abundant renewable energy resources to run Bitcoin miners to generate bitcoins. These bitcoins are money and more money means more power.



USE THE MONEY FOR EXAMPLE TO:



Finance nature reserves and national parks to protect wildlife, marine biodiversity, and the islands' rare nature (e.g. *Bitcoin mining saved Africa's oldest national park*).



Promote economic diversification by investing in new business areas and, thus, **become independent from problematic industries**, like palm oil, gas, or coal.

COMMON MISCONCEPTIONS

“Bitcoin is haram.”

False. The fiat system is based on debt, which is antithetical to Islamic law. Bitcoin, instead, allows for a monetary system that follows the teachings of the Quran:

- **Shared risk, profit, and loss (Mudarabah):** Bitcoin is decentralized, so no single party can exploit it to its advantage. Everyone on the network shares the same risks and opportunities for profit and loss.
- **No interests (Riba):** Bitcoin cannot be inflated by issuing credits like in the fiat system. Also, due to its fixed supply, the value of bitcoin will increase over time. People are more likely to hold their bitcoin. This will reduce the temptation to lend it out just to earn a small amount of interest.
- **No speculation (Gharar):** The fiat system with high inflation rates causes people to speculate. Bitcoin, on the other hand, is a secure store of value that allows people to save again instead of speculating.
- **No gambling (Maisir):** Bitcoin follows the proof-of-work algorithm, which requires miners to put a lot of effort into mining new bitcoins. There is no profit without working for it. In addition, the difficulty level is regularly adjusted.
- **Distribute wealth and support the poor (Zakat):** Bitcoin ensures that all people have equal access to the financial system and enables a fair distribution of wealth.

Thus, when using Bitcoin, the Shariah-compliant idea for money and investments can even be spread globally.²¹

COMMON MISCONCEPTIONS

“Bitcoin is for criminals.”

False. With 0.15%, the share of unauthorized activities in the total crypto transaction volume has never been lower. In general, the trend has been strongly decreasing over the years, especially for Bitcoin. In contrast, the fiat system is much more frequently abused for illegal purposes (2-5% of global GDP).²²

“Bitcoin is a bubble and has no value.”

False. In economics, something has value if it fulfills the following two requirements: **scarcity** and **utility**.²³ Scarcity means that something has a finite supply. In the case of bitcoin, the digital currency has a **set cap of 21 million bitcoins**. Many analysts note that this set cap makes Bitcoin **more desirable than other assets, even gold**. When it comes to utility we are only at the beginning of what will be possible and already today the utility of Bitcoin is tremendous. Here are just a few examples:

- Bitcoin is decentralized, digital cash money.
- Bitcoin is a store of value.
- Bitcoin is a hedge against inflation.
- Bitcoin makes renewable energy production profitable.
- Bitcoin makes war unaffordable.

These and many more use cases make Bitcoin one of the most desired assets on this planet.²⁴

COMMON MISCONCEPTIONS

“Bitcoin is slow and cannot handle high amounts of transactions.”

False. In order to execute a large amount of transactions as fast as possible, the Bitcoin community has developed the **Lightning Network**. It goes hand in hand with the Bitcoin Network and solves the presumed scalability problem. Lightning can process 1,000,000+ transactions per second. Furthermore, it has significant advantages in cost, privacy, and fault tolerance, making it the most efficient payment system in the world.²⁵



Figure 11: Lightning as a 2nd layer - Scaling without compromising decentralization

	Visa	Mastercard	Lightning
Speed	3-5 secs (+ risk of chargebacks)	3-5 secs (+ risk of chargebacks)	Immediate (+ full settlement)
Costs	~ 20 cents (+ chargeback costs)	~ 19 cents (+ chargeback costs)	0 - few cents
Transactions (per second)	24,000 - 65,000	5,000	1,000,000+
Privacy	Poor	Poor	Good
Fault tolerance	Medium	Medium	Medium - High

Figure 12: Comparison between Visa, Mastercard, and the Bitcoin-Lightning transactions²⁶ *, **

STATUS QUO

Bitcoin in Indonesia

Since 2018, the main use case of Bitcoin is banned, i.e. people are not allowed to use the payment system. However, investments and speculations are legal.

- Slowed down adoption, especially due to misguided laws and lack of public education
- No evolving economy
- No foreign investment
- No hedging against inflation or against speculative attack on own currency
- A lot of untapped potential in Bitcoin mining, banking the unbanked, and building sustainable energy infrastructure
- High level of speculative activity with suspicious crypto assets (e.g. NFTs and Alternative-Coins) among citizens
- High risk of losing national sovereignty and wealth



STATUS QUO

Bitcoin in the rest of the world

Most other countries are understanding and exploiting the potential Bitcoin brings. Here are a few examples of the Bitcoin adoption:

- Bitcoin is legal tender in El Salvador and Central African Republic
- USA, EU, Brazil, Japan, and over 100 other countries legalize payments in Bitcoin
- USA, EU, Canada, UK, and other developed countries prepare regulations for Bitcoin mass adoption
- The Philippines have a Bitcoin island (Boracay) with over 250 merchants accepting payments in bitcoin
- Countries start using their renewable energy for Bitcoin mining and generate wealth, e.g. Norway and Paraguay

- Bitcoin payment legalization
- Bitcoin-friendly regulations
- Rapid mass adoption
- Utilization of Bitcoin mining potential to build renewable energy infrastructure
- Increased wealth



STATUS QUO

Businesses in the rest of the world

A lot of start-ups and big companies entered the emerging Bitcoin industry, incl. software companies, hardware companies, service providers, tourism, magazines, games, books, etc. Here are a few examples:

- Traditional banks and payment service providers offer Bitcoin services for better, faster, and cheaper transactions, e.g. Paypal, Visa, Master Card, BlackRock, Bank of New York Mellon, JPMorgan Chase, Santander, Deutsche Bank, and, thus, disrupt traditional banks
- Samsung, Intel, and TSMC operate in the mining business (hardware, chips, etc.)
- Twitter supports donations in bitcoin (via Lightning)
- Big companies are using bitcoin for their treasuries, e.g. Microstrategy, Tesla, etc.
- Energy companies use Bitcoin to catalyze renewable energies (e.g. heating cities with Bitcoin miners like in North Vancouver)

- Thriving Bitcoin industry and economic growth



MAKE A STRATEGIC CHESS MOVE

In chess it is very important to make strategic moves and position yourself well on the board to get an advantage or at least fend off your opponent's attacks. If you do not have a good strategy, you will lose the game. The same applies to international affairs and the global economy. As soon as major countries start to put bitcoin on their balance sheet, the price will skyrocket. This will make it far more difficult for developing countries to enter the market and it will be almost impossible for them to catch up. Indonesia has a chance to gain a first-mover advantage by adopting Bitcoin and to become a leader in the future. However, if Indonesia acts imprudently (such as with the Bitcoin payment ban), other countries will checkmate Indonesia within a few moves.



Figure 13: Bitcoin adoption is a strategic chess move



PROTECT AGAINST INFLATION

In September 2022, Indonesia hit a new seven-year high, charting an annual inflation rate of 5.95%.²⁷ Bitcoin, or also described as digital gold, is the hardest asset in the world (according to its stock-to-flow ratio). The Indonesian government could use bitcoin to back the Indonesian Rupiah, making the local currency more stable in value.

To understand why this makes sense, we need to understand why the Indonesian Rupiah and all other fiat currencies lose value over time and how goods and services become more expensive in a fiat system while becoming much cheaper in a Bitcoin standard (see deep dive on page 25-27).

DEEP DIVE: INFLATION

Purchasing power of the US Dollar: The purchasing power (i.e. its value in terms of what it can buy) of the US Dollar has fallen dramatically over the last century due to rising inflation and an enormous increase in money supply.

For example, with *USD 1* you could buy *10 bottles of beer* in 1933. In 2020, you only get a *small McDonald's coffee* for the same amount of money (= 95% inflation in 87 years).

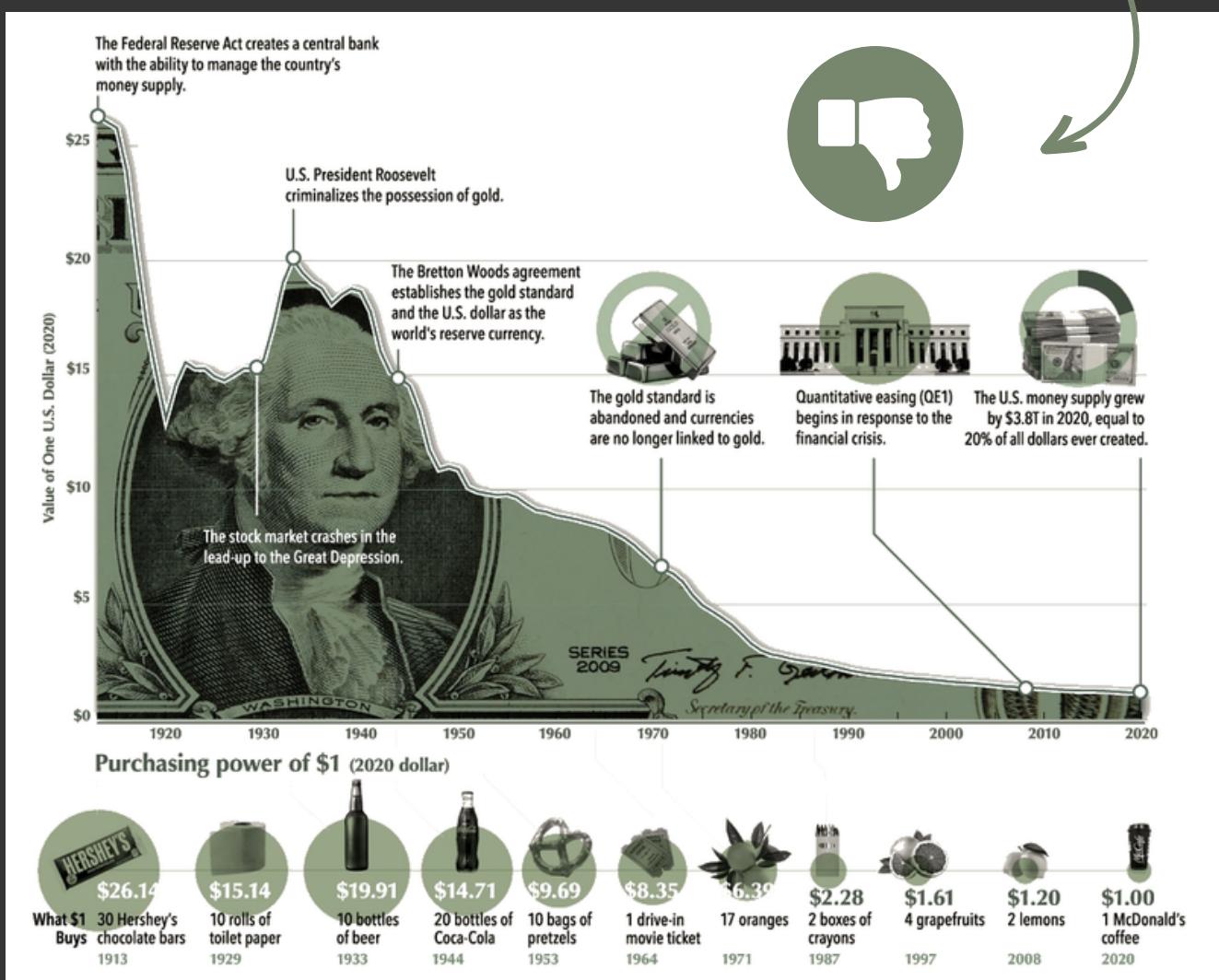


Figure 14: The purchasing power loss of the US Dollar since 1913²⁸

DEEP DIVE: INFLATION

Purchasing power of the Indonesian Rupiah: The same applies to the value of the Indonesian Rupiah. The loss of purchasing power is **even worse** compared to the US Dollar.



Figure 15: The purchasing power loss of the Indonesian Rupiah since 1970²⁹

Purchasing power of Bitcoin: Bitcoin, however, is **different**. The value **increases over time** as there is a **limited supply of 21 million bitcoins**. Everything will become **cheaper** in a Bitcoin standard.

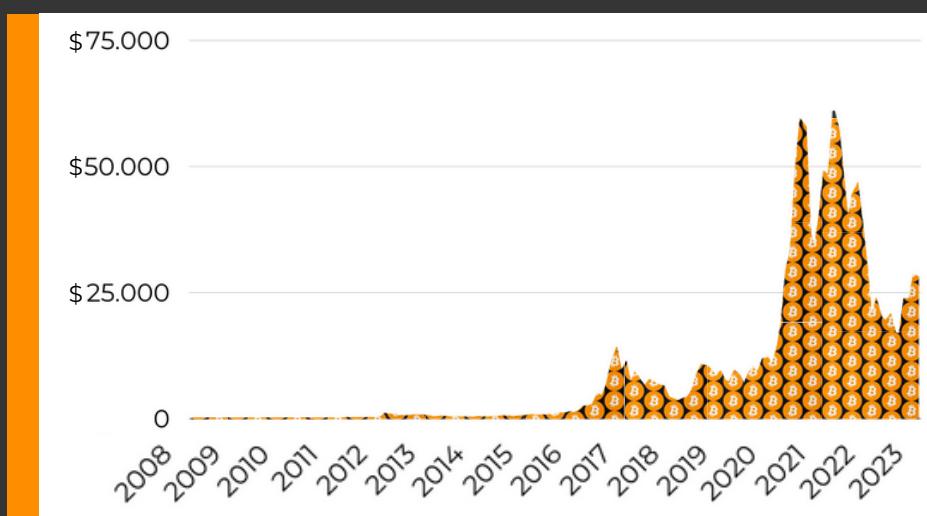


Figure 16: The purchasing power increase of Bitcoin since 2008³⁰

DEEP DIVE: INFLATION - EXAMPLE

How does the price of the same car change in the Fiat vs. Bitcoin system?

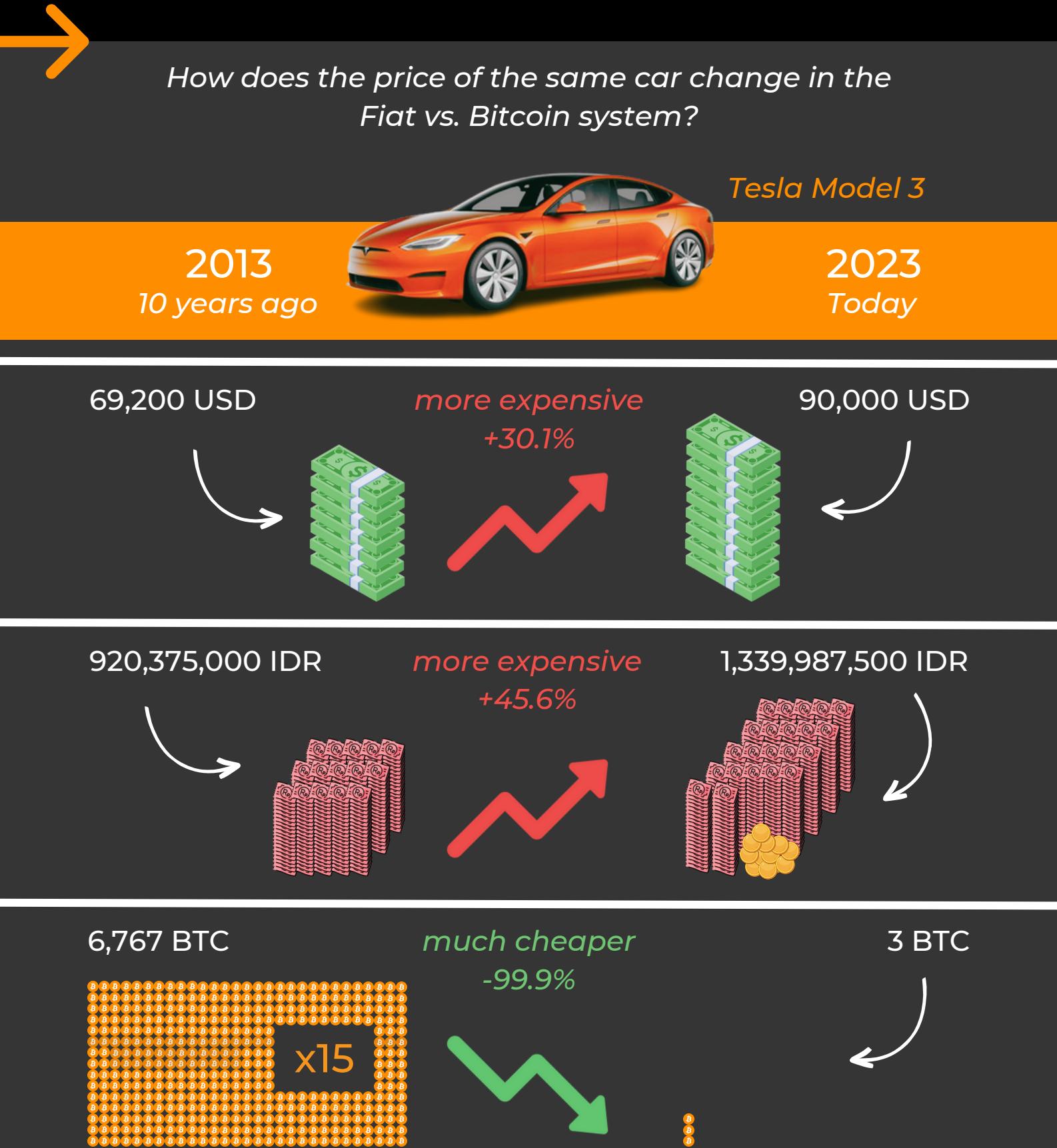


Figure 17: Price change of Tesla Model 3 in USD, IDR, and BTC between 2013 and 05/2023

BANK THE UNBANKED

About 51% of the Indonesian population is unbanked and 26% is underbanked. With a smartphone, these people could immediately participate in international and domestic payments using Bitcoin. Considering that 74% of Indonesians are already active Internet users, the basic requirement is already fulfilled.³¹ With Bitcoin, the Indonesian government can achieve its goal of reaching 90% financial inclusion by 2024.

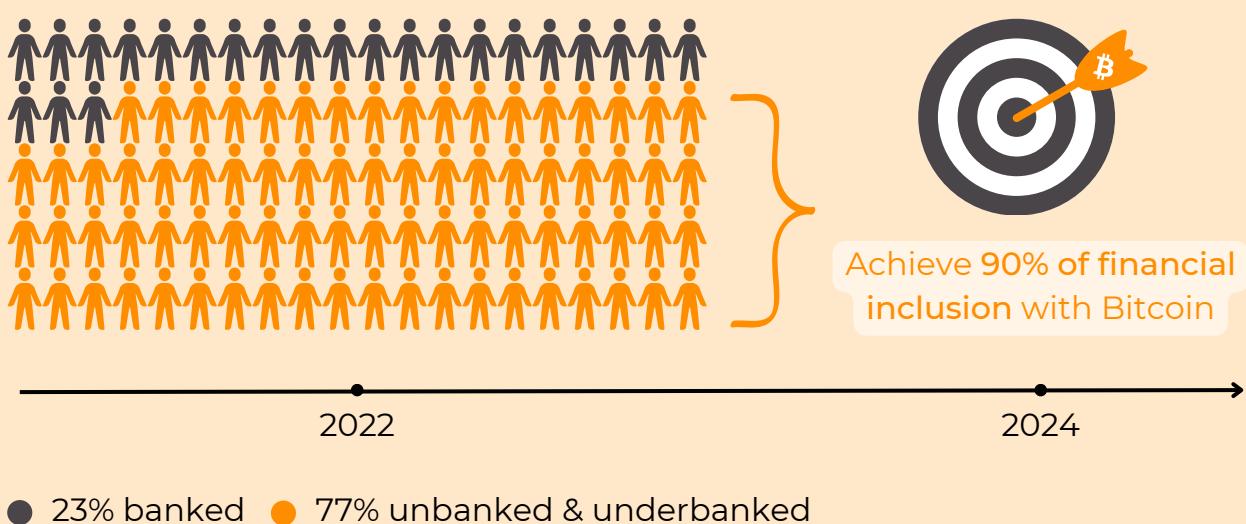


Figure 18: Banking the un- and underbanked Indonesian population with Bitcoin³²

STRENGTHEN LOCAL BANKING SYSTEM

Indonesian banks could gain new customers, participate more in international payments, and probably generate more revenue if they embrace Bitcoin and the underlying technology. They could develop exchanges, wallets, or financial services for Bitcoin.

INCREASE DOMESTIC GDP

Improve remittances: Approximately 1% (USD 9,960,000,000) of Indonesia's GDP is made up of foreign remittance payments.³³ For these transactions foreign banks and financial service providers charge high fees (on avg. 7%)³⁴, leading to an average yearly loss of USD 675.5 Mio. for Indonesia. With Lightning, these remittance transactions could be made almost free of charge and in real time. Bitcoin is the most advantageous way to conduct international transactions and keep the monetary value of the people's labor output in the own economy.

+ IDR 10,000,000,000,000

every year for those Indonesian families
who need it the most.



Attract tourism: The opportunity to pay with bitcoin is very convenient for foreign tourists as it is a global currency. There is no more need to convert different currencies to IDR or to pay high fees for credit card transactions (e.g. 1.5 - 3.5% to Visa or Mastercard³⁵) and ATM withdrawals. Furthermore, being an innovative, technology-embracing country attracts a lot of global attention and makes Indonesia not only interesting for international companies and foreign investors but also for the growing number of digital nomads, expats, and retirees.

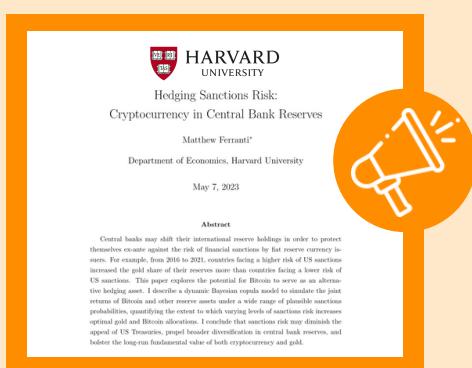
INCREASE DOMESTIC GDP

Get foreign investments: Bitcoin-friendly regulations would attract investments from abroad. The market capitalization of Bitcoin is currently (May 2023) about USD 509 billion.³⁶ Assuming that a Bitcoin standard in Indonesia leads to investments of only 0.1% of Bitcoin's market capitalization (e.g. by mining companies, exchanges, payment companies, investment funds, infrastructure for Bitcoin, and more), that would be about USD 509 million in new investments. El Salvador saw an increase of 122.65% in their foreign direct investments in the year they made Bitcoin legal tender, 2021 (USD 830 million total). Moreover, El Salvador has benefited greatly from the issuance of bitcoin-backed bonds, financing the development of its renewable energy infrastructure. Indonesia could do the same. Additionally and even more crucial: the Indonesian state would benefit long term from receiving more taxes.

Reduce merchant fees to zero: Indonesia is home to more than 60 million ultra-micro and micro businesses, which absorb a whopping 97% of the workforce and account for more than 60% of Indonesia's GDP. However, most of them lack access to formal banking services.³⁷ Instead of using foreign payment service providers including their expensive devices, such as Visa or Mastercard, merchants could use the payment service on the Bitcoin network, i.e., the Lightning Network, at almost no cost.

BECOME MORE INDEPENDENT

Hedge sanctions risk: Recent events have shown that some states have so much power that they can easily control or exclude other states from global trade (e.g. through high inflation of the US Dollar³⁸ or by excluding states from the SWIFT system³⁹). Therefore, it is time to explore the question of how, and to what extent, the risk of financial sanctions may motivate changes in central bank reserve composition. Harvard Research urges central banks to hold bitcoin to circumnavigate potential sanctions and become more independent from the centralized money systems. Even at high levels of risk aversion, the share ranges from holding 2% to 5% of bitcoin.⁴⁰



Central banks should shift international reserve holdings to protect themselves against the risk of financial sanctions by fiat reserve currency issuers.



Optimal share: 2-5% bitcoin

Figure 19: Harvard University - Recommendation on Bitcoin for central banks' balance sheets

Reduce power of fiat reserve currency issuers: It should also be considered that it is more beneficial for Indonesia to hold Bitcoin as a neutral currency than to hand over all currency power to an external fiat issuer (e.g. the United States of America with their US Dollar). The latter is actually the worst choice Indonesia could make (see priority order in the following chart).

BECOME MORE INDEPENDENT

1

Own currency = Global reserve currency

- very powerful
- difficult to achieve and expensive to protect

Most desirable

2

Neutral currency = Global reserve currency

- with bitcoin, this option became possible for the first time in history



2nd most desirable

3

Other currency = Global reserve currency

- highly dependent (power is given to third party)
- risky (e.g. high risks of sanctions, no control)

Worst scenario (current situation of Indonesia)

Figure 20: The priority order of the global reserve currency

Reduce foreign influence: Currently, Indonesia is heavily dependent on foreign funds (see deep dive on page 33). Through the money flows, external parties gain influence and can make certain claims against the Indonesian government (e.g. to pursue political interests or to get trade advantages). If Indonesia would buy and hold Bitcoin, the value gains would bring so much prosperity to the country that it would henceforth no longer be dependent on financial support and could act more self-determined.

DEEP DIVE: FOREIGN INFLUENCE



USA (incl. US organizations): ~ USD 1 billion; International Monetary Fund (IMF): loan of USD 1 billion in 07/2020; Australia (incl. Australian organizations): assistance of ~ USD 250 million in 2020; Asian Infrastructure Investment Bank (AIIB): loan of USD 750 million in 2020; Islamic Cooperation Organizations provided financial assistance while the total amounts are not public.

PROTECT AGAINST A NEW TYPE OF WAR

For centuries, society uses physical power to keep its resources secure in every domain: land, sea, air, and space. For instance, a country protects its national borders with its military, its airspace with an air force, and its territorial waters with a navy. The country purposefully deploys physical power in the form of trained human resources, machines, and ammunition to secure the different domains.

More precisely, countries preserve their freedom of action, the lives of their citizens, their territory, their wealth, their knowledge, etc., through physical power. However, it seems like there is a missing piece of the puzzle when it comes to securing the properties in cyberspace.

Society secures its resources using physical power



Figure 22: Different physical power sources used to secure societies' resources⁴¹

PROTECT AGAINST A NEW TYPE OF WAR

Society currently fails to protect the new domain, the cyberspace, with physical power. People, companies and states store their most sensitive data and software in the unprotected cyberspace. This is very dangerous, as the amount of cyber criminals and the threat of a new form of war, cyber war, are steadily increasing. Cybercrime costs the world approximately USD 7 trillion in 2022. If measured as a country, cybercrime would be the third largest economy in the world.⁴²

Bitcoin, or more precisely the proof-of-work protocol, can fill this missing piece of the puzzle. Bitcoin converts physical power into bits and imposes severe physical costs on anyone who tries to gain or maintain centralized control over those bits. This implies that from now on, the Bitcoin network serves to protect digital assets.

The US has recognized the urgency for their national security and has been researching it for over 2 years already, together with the US Defense Force and the MIT.⁴³

Indonesia should also get ready to protect themselves against this new form of war. Otherwise, it will be easy for digitally armed countries to attack and conquer Indonesia and turn it into a modern colony - just as the Dutch once did in the 16th/17th century.⁴⁴

ACHIEVE SDGS WITH BITCOIN

As previously shown, Bitcoin mining can help to stabilize the grid and promote renewable energy in Indonesia. Increased, reliable demand for more renewable energy provides a secure way for energy companies to expand their production and makes clean energy affordable (SDG #7) for the broader population. Bitcoin lets Indonesia move forward on the path to becoming a more sustainable or even a net-zero country (SDG #11 and SDG #13).

However, this is not the only way how Bitcoin can help Indonesia to achieve the UN's Sustainable Development Goals. In fact, Bitcoin has a direct impact on 10 of the SDGs and supports the remaining 7 SDGs in an indirect way.⁴⁵



Figure 23: Bitcoin's impact on the achievement of the SDGs⁴⁶



SUMMARY

KEY LEARNINGS OF THIS DOCUMENT

- Bitcoin is money and a store of value. It is the way we secure and transfer value today and in the future.
- Bitcoin is an unstoppable innovation that is changing the world in all areas of life - just like the Internet once did.
- Bitcoin is more halal than the Indonesian Rupiah and spreads the Shariah-compliant idea of money globally.
- Indonesia cannot ban the use of Bitcoin and will only harm itself in the attempt.
- Bitcoin is Indonesia's biggest opportunity ever and the solution for the major challenges the country is facing.
- Bitcoin can and will be used for warfare. Indonesia must prepare to ensure national security.
- Now is the time to act. Otherwise, Indonesia will be left behind and exploited by other countries.
- If you do not like Bitcoin, then you have not understood Bitcoin well enough yet. Please do more research.



SHORT TERM (1-6 MONTHS) - NEXT STEPS!

- Read this document with attention.
- Do your own research and get more information from us, e.g. on how to regulate Bitcoin in a beneficial way, how to eliminate potential risks, how to achieve the SDG goals with Bitcoin, how the Lightning Network operates, how to get started etc. (on request).
- Have a free and non-disclosed consultation with international Bitcoin experts (on request). We can put you in touch with relevant people.
- Set up a workforce to conceptualize a Bitcoin plan for Indonesia.

MID TERM (1-2 YEARS)

- Become a Bitcoin-friendly country by regulating Bitcoin in a beneficial way, legalizing bitcoin payments, and encouraging the foundation of new businesses around Bitcoin. *Suggestion: Start with a pilot project in Bali.*
- Educate the Indonesian population on what Bitcoin is, what its benefits are, and how they can use it.
- Classify bitcoin as a (foreign/global) currency and encourage Indonesian people to use it as a store of value.

LONG TERM (2-5 YEARS)

- Declare bitcoin as legal tender (in addition to the Indonesian Rupiah).
- Build Indonesia's own finance infrastructure on top of Bitcoin.
- Back the (digital) Indonesian Rupiah with bitcoin to stabilize the value of the local currency and to protect the state from external attacks, sanctions, etc.
- Put bitcoin on the **state's balance sheet**, e.g. by investing with governmental trust funds in bitcoin.
- Issue bitcoin-backed bonds and receive foreign investment to build Bitcoin mining farms and fund renewable energy infrastructure in Indonesia.
- Understand the importance of Bitcoin mining as warfare and maintain Indonesia's national security in cyberspace.
- Let Indonesia's economy, society, and international reputation thrive through Bitcoin adoption.

THIS IS YOUR CHANCE!

Bitcoin offers YOU the opportunity to:

- prove yourself in your position,
- move Indonesia forward, and
- gain global recognition.



See how globally recognized and popular El Salvador and its president became thanks to their Bitcoin adoption.

LETTER FROM EL SALVADOR SEPTEMBER 12, 2022 ISSUE

THE RISE OF NAYIB Bukele, EL SALVADOR'S AUTHORITARIAN PRESIDENT

The budding strongman has ridden Bitcoin schemes and a repressive crackdown on gangs to become Latin America's most popular leader.

By Jonathan Blitzer
September 5, 2022



SPEAK UP AND SHARE!

Easy actions YOU can take:



Speak up for Bitcoin adoption in Indonesia



Talk to your colleagues about this document



Share this document with your superiors

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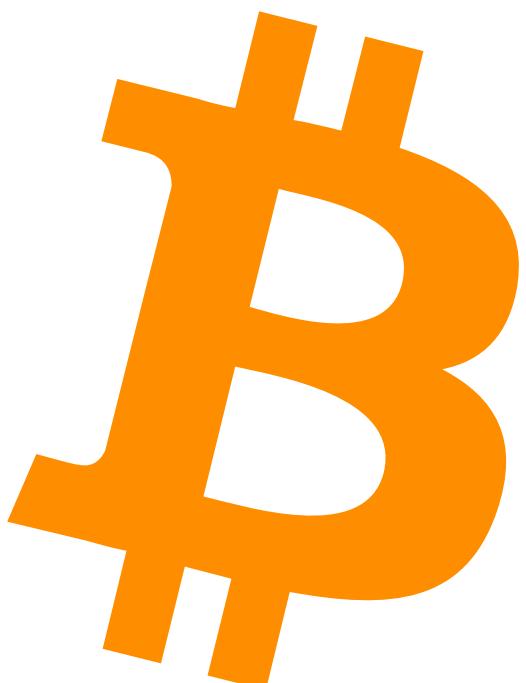
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