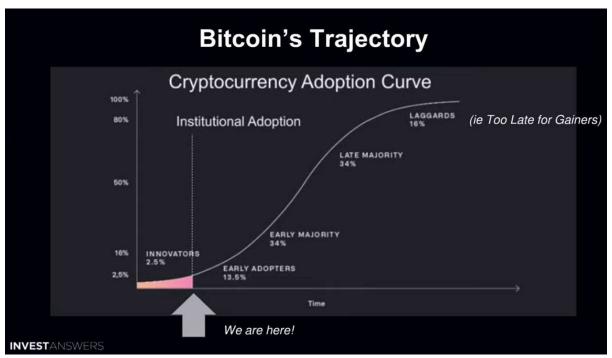
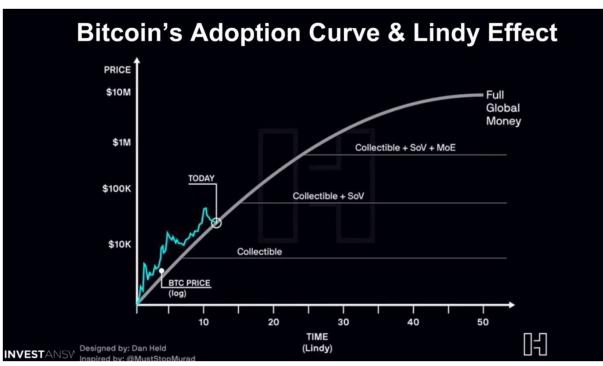
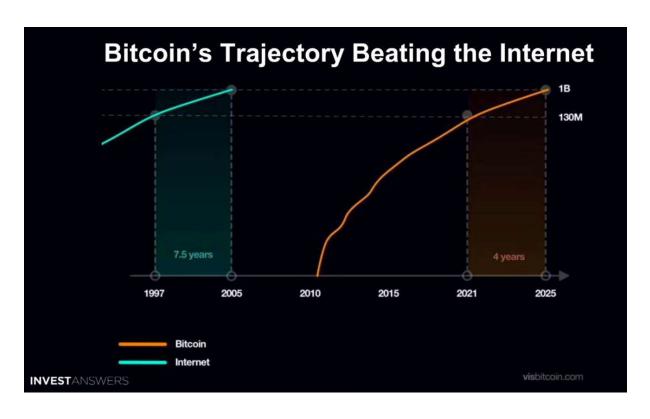
Bitcoin 2021 Research. Contains graphics taken from various sources









Bitcoin 2021

Apple 1997

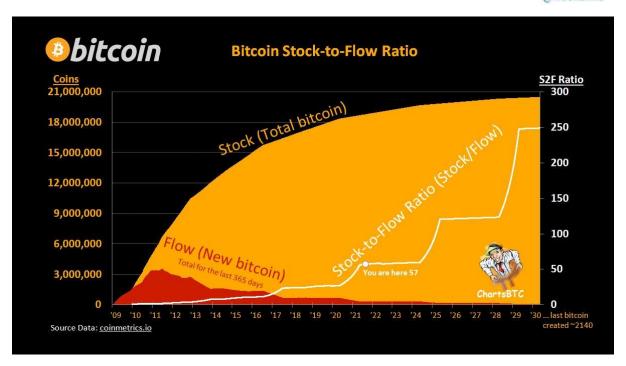


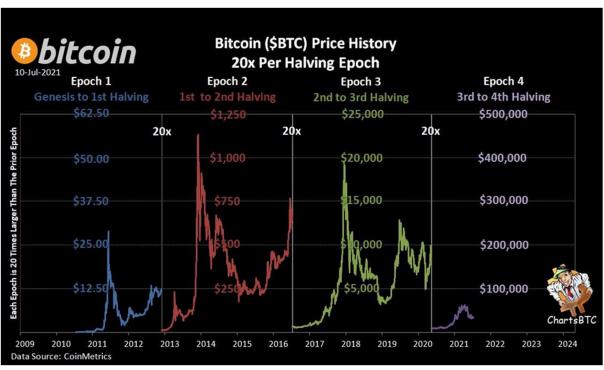
Bitcoin 2028

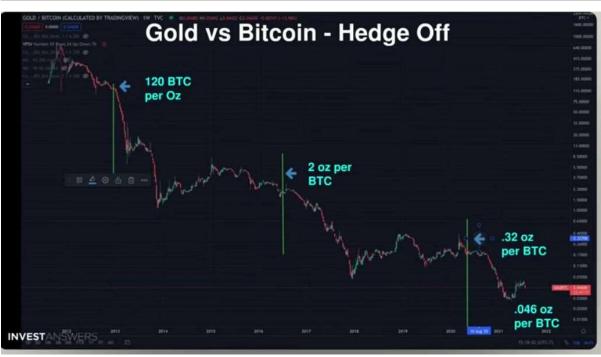
Apple 2010



@woonomic







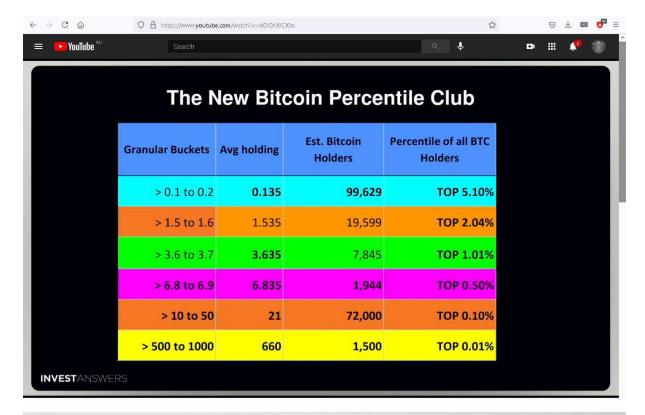


Owning 1 Bitcoin Top 2.54% of all BTC holders.

With a max of 14 million BTC and a world population of 7.6 billion that will grow, owning 1 full Bitcoin will put you in a class of your own



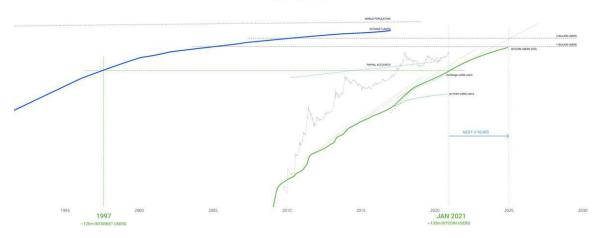
INVESTANSWERS



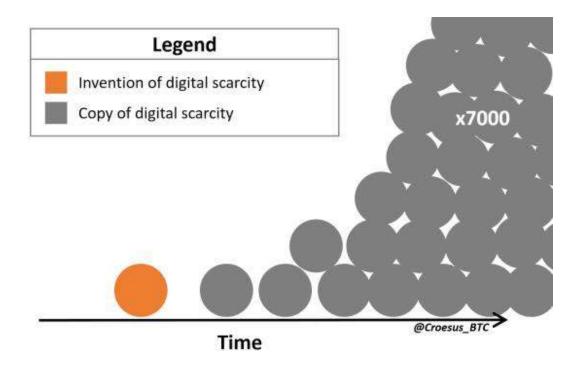


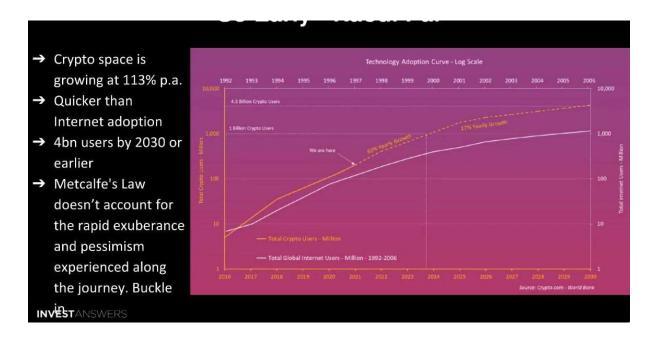
Adoption Curves



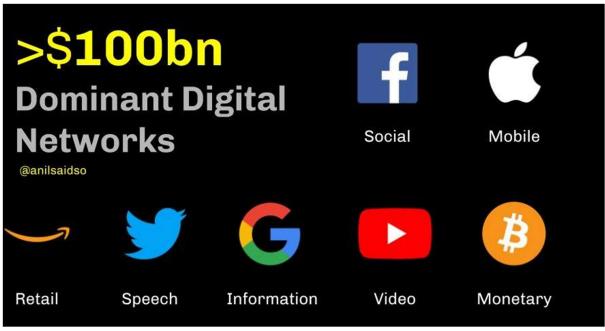


(@CharlieBilello		Asse	t Class	Total	Return	s over	Last 10	Years	(as of	4/30/21)	Data Source	e: YCharts
ETF	Asset Class	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 YTD	2011-21 Cumulative	2011-21 Annualized
N/A	Bitcoin (\$BTC)	1473%	186%	5507%	-58%	35%	125%	1331%	-73%	95%	301%	95%	18736496%	223.8%
QQQ	US Nasdaq 100	3.4%	18.1%	36.6%	19.2%	9.5%	7.1%	32.7%	-0.1%	39.0%	48.6%	7.9%	588.0%	20.5%
SPY	US Large Caps	1.9%	16.0%	32.2%	13.5%	1.2%	12.0%	21.7%	-4.5%	31.2%	18.4%	12.0%	306.3%	14.5%
IWM	US Small Caps	-4.4%	16.7%	38.7%	5.0%	-4.5%	21.6%	14.6%	-11.1%	25.4%	20.0%	14.9%	232.4%	12.3%
VNQ	US REITs	8.6%	17.6%	2.3%	30.4%	2.4%	8.6%	4.9%	-6.0%	28.9%	-4.7%	17.3%	169.4%	10.1%
TLT	Long Duration Treasuries	34.0%	2.6%	-13.4%	27.3%	-1.8%	1.2%	9.2%	-1.6%	14.1%	18.2%	-11.8%	92.5%	6.5%
EFA	EAFE Stocks	-12.2%	18.8%	21.4%	-6.2%	-1.0%	1.4%	25.1%	-13.8%	22.0%	7.6%	7.1%	80.5%	5.9%
PFF	Preferred Stocks	-2.0%	17.8%	-1.0%	14.1%	4.3%	1.3%	8.1%	-4.7%	15.9%	7.9%	1.7%	80.5%	5.9%
HYG	High Yield Bonds	6.8%	11.7%	5.8%	1.9%	-5.0%	13.4%	6.1%	-2.0%	14.1%	4.5%	1.2%	73.5%	5.5%
LQD	Investment Grade Bonds	9.7%	10.6%	-2.0%	8.2%	-1.3%	6.2%	7.1%	-3.8%	17.4%	11.0%	-4.5%	72.9%	5.4%
EMB	EM Bonds (USD)	7.7%	16.9%	-7.8%	6.1%	1.0%	9.3%	10.3%	-5.5%	15.5%	5.4%	-3.2%	66.9%	5.1%
TIP	TIPS	13.3%	6.4%	-8.5%	3.6%	-1.8%	4.7%	2.9%	-1.4%	8.3%	10.8%	-0.3%	42.8%	3.5%
BND	US Total Bond Market	7.7%	3.9%	-2.1%	5.8%	0.6%	2.5%	3.6%	-0.1%	8.8%	7.7%	-2.8%	40.8%	3.4%
EEM	EM Stocks	-18.8%	19.1%	-3.7%	-3.9%	-16.2%	10.9%	37.3%	-15.3%	18.2%	17.0%	4.5%	39.8%	3.3%
GLD	Gold	9.6%	6.6%	-28.3%	-2.2%	-10.7%	8.0%	12.8%	-1.9%	17.9%	24.8%	-7.1%	19.4%	1.7%
BIL	US Cash	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.1%	0.7%	1.7%	2.2%	0.4%	0.0%	4.8%	0.5%
DBC	Commodities	-2.6%	3.5%	-7.6%	-28.1%	-27.6%	18.6%	4.9%	-11.6%	11.8%	-7.8%	21.8%	-33.1%	-3.8%
	Highest Return	BTC	BTC	BTC	VNQ	BTC	BTC	BTC	BIL	BTC	втс	BTC	BTC	BTC
Lowest Return E		EEM	BIL	GLD	BTC	DBC	BIL	BIL	BTC	BIL	DBC	TLT	DBC	DBC
% of Asset Classes Positive		65%	94%	41%	65%	41%	100%	100%	6%	100%	88%	59%	94%	94%









Wholecoiners?

There will never be more than 416,054 wholecoiners (0.00542% of world pop) and that population is dwindling.



INVESTANSWERS

Bitcoin Per Millionaire

0.2745 BTC

INVESTANSWERS

The 1% Club Cost of Planet Earth \$1,632 today

0.0297 BTC



If you own 0.0297 BTC, you will own more than 99% of the world's population!

INVESTANSWERS

To be in top 0.5% of all Bitcoin Holders

Top 0.5% you need > 7 Bitcoin

INVESTANSWERS

Bitcoin Balance	Less Dupes	Coins	Coins (Total)	Address Percentils	PER ADDRESS	Avg \$ per addre
0 - 0.001	12,798,063	4,172	0.02%	51.61%	0.0002	\$11.87
0.001 - 0.01	6,192,133	36,358	0.18%	76.59%	0.0038	\$213.73
0.01 - 0.1	3,760,382	187,325	0.94%	91.75%	0.0324	\$1,813.28
0.1 - 0.2	473,642	103,837	0.52%	93.66%	0.1425	\$7,980
0.2 - 0.3	343,200	125,400	0.63%	95.05%	0.2375	\$13,300
0.3 - 0.4	283,400	144,970	0.73%	96.19%	0.3325	\$18,620
0.4 - 0.5	161,200	117,800	0.59%	96.84%	0.4750	\$26,600
0.5 - 0.6	103,350	90,630	0.46%	97.26%	0.5700	\$31,920
0.6 - 0.7	83,200	85,120	0.43%	97.59%	0.6650	\$37,240
0.7 - 0.8	70,200	82,080	0.41%	97.87%	0.7600	\$42,560
0.8 - 0.9	60,744	79,902	0.40%	98.12%	0.8550	\$47,880
0.9 - 1.0	49,810	72,800	0.37%	98.32%	0.9500	\$53,200
1-2	90,708	215,187	1.08%	98.69%	1.5420	\$86,352
2 - 3	65,727	226,252	1.14%	98.95%	2.2375	\$125,300
3 - 4	54,274	278,261	1.40%	99.17%	3.3325	\$186,8
4-5	30,872	212,540	1.07%	99.29%	4.4750	\$2,600
5 - 6	19,793	169,608	0.85%	99.37%	5.5700	\$311,920
6 - 7	15,934	159,583	0.80%	99 44%	6.5100	\$364,560
7 - 8	13,444	155,538	0.78%	99.49%	7.5200	\$421,120
8 - 9	11,633	151,411	0.76%	99.54%	8.4600	\$473,760
9 - 10	14,676	139,126	0.70%	99.60%	9.4800	\$530,880
10 - 100	85,457	4,267,071	21.5%	99.94%	32.4559	\$1,817,529
100 - 1,000	11,856	3,912,020	19.7%	99.99%	280.4718	\$15,706,418
1,000 - 10,000	2,140	5,205,014	26.2%	100.00%	2,432.2495	\$136,205,974
10,000 - 100,000	85	2,289,266	11.5%	100.00%	26,932.5412	\$1,508,222,306
100,000 - 1,000,000	2	310,480	1.6%	100.00%	155,240.000	\$8,693,440,000
1.000.000+	1	1,040,000	5%	100.00%	1,040,000.0	\$58,240,000,000

Top 0.5% of all Bitcoin Holders



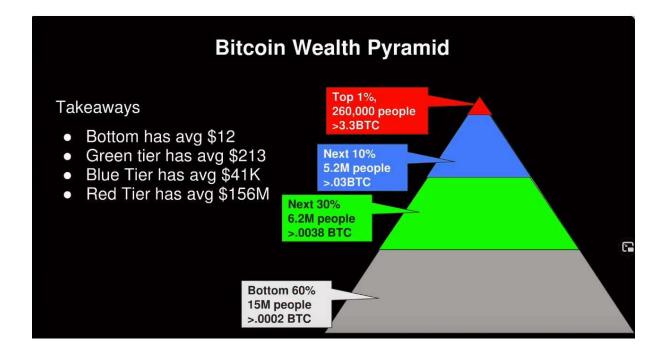
To Have More Bitcoin Than the Average Person Today

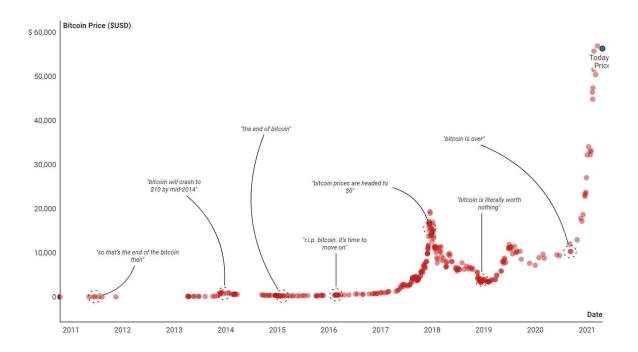


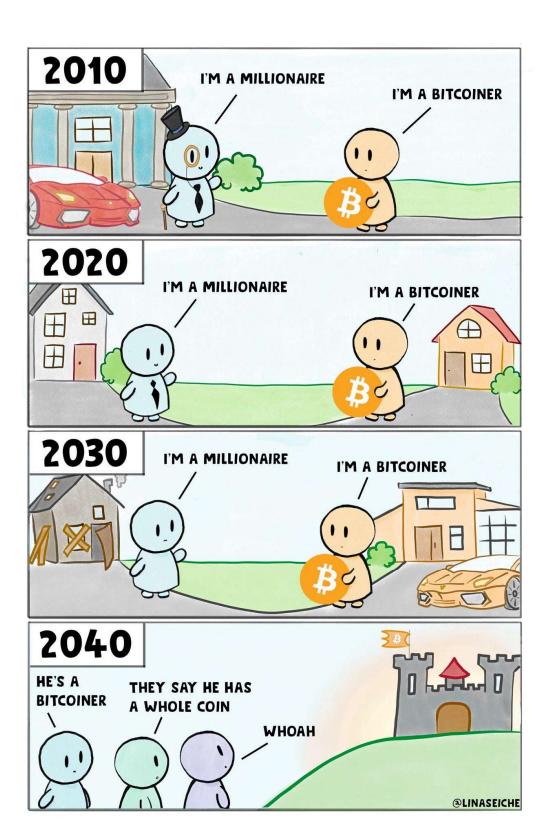
втс	14,000,000
Population	7,674,000,000
BTC per person	0.0018243
More than avg Human	\$100.85
Note BTC price today	\$55,000

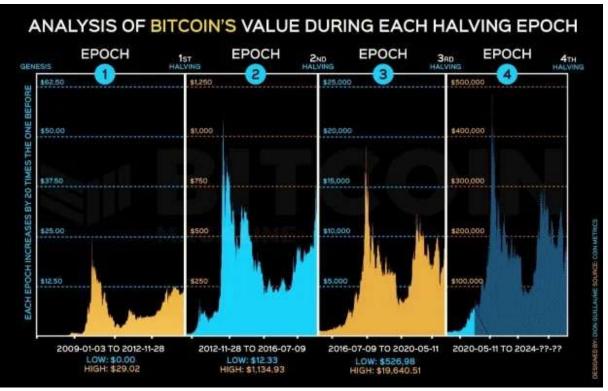
NVESTANSWERS

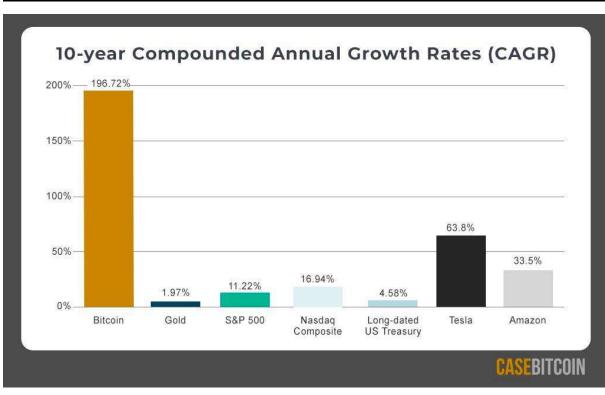








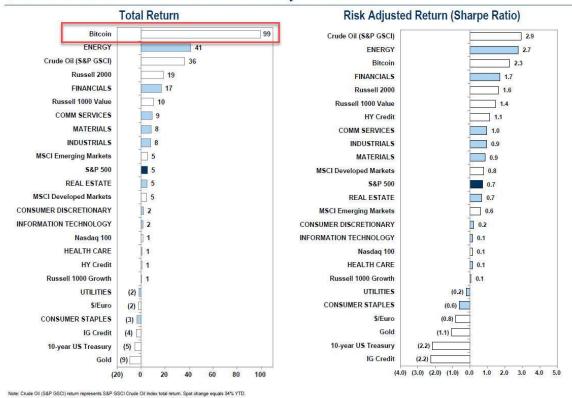




Goldman Sachs

US Weekly Kickstart

Market Performance: YTD absolute and risk-adjusted returns



Source: Haver, FactSet, and Goldman Sachs Global Investment Research.



TCP / IP

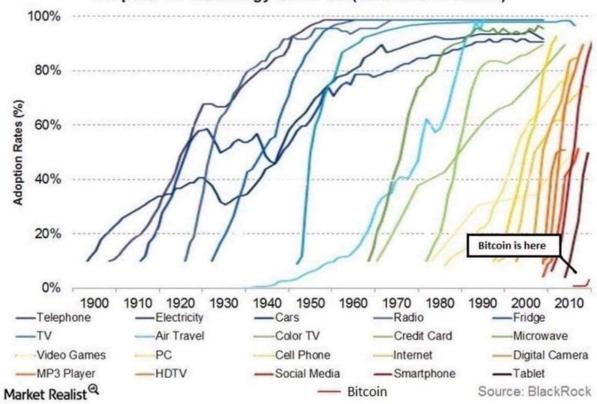
Protocol layer:

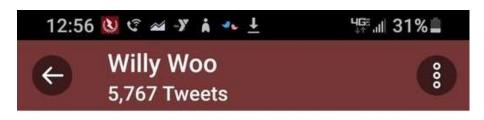
No ownership possible

The internet of value today...



Adoption of Technology in the US (1900 to the Present)





Tweets & replies Media Li



Willy Woo @woon... · 01 Feb In terms of adoption, Bitcoin has roughly the same users as the Internet had in 1997.

But Bitcoin's growing faster.

Next 4 years on current path
will bring Bitcoin users to 1b
people, that's the equivalent of
2005 for the Internet.

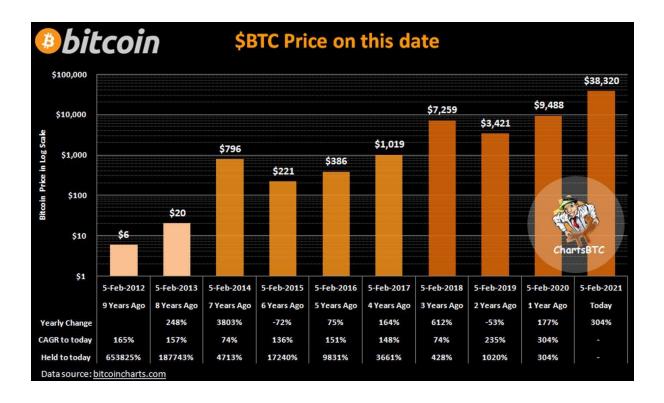


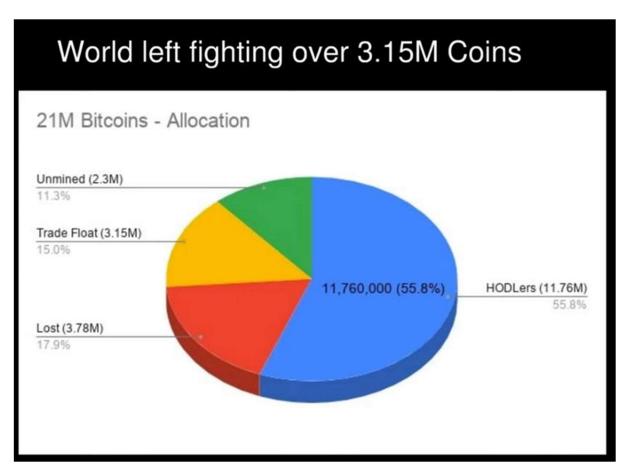
Show this thread

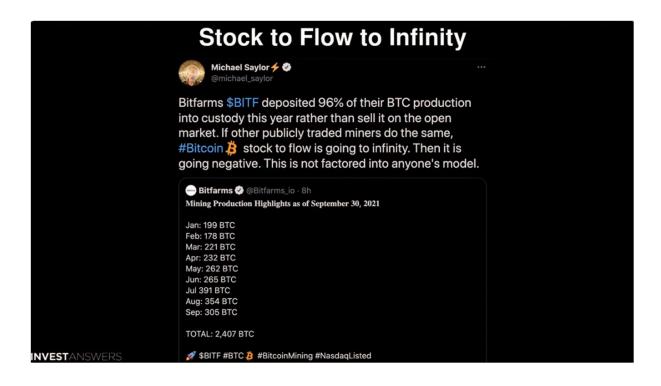
Promoted Tweet











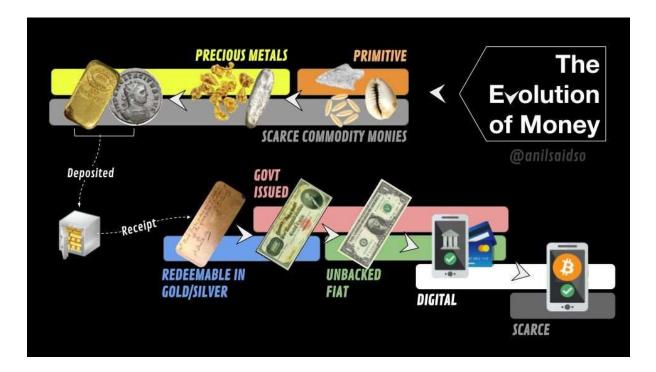
Bitcoin Stock to Flow to Infinity

Stock $\frac{18,830,000}{100,000} = 188 \text{ years}$

Stock $\frac{18,830,000}{100} = 188,300 \text{ years}$

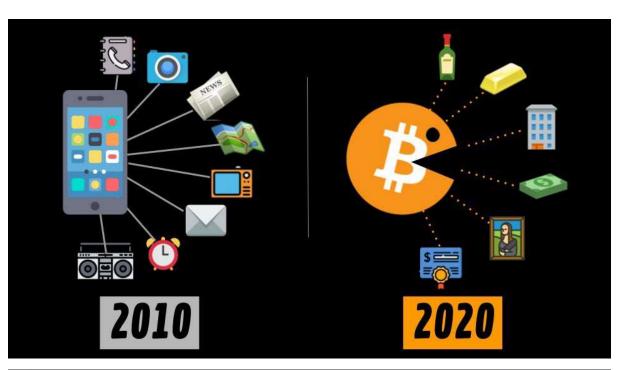
INVESTANSWERS



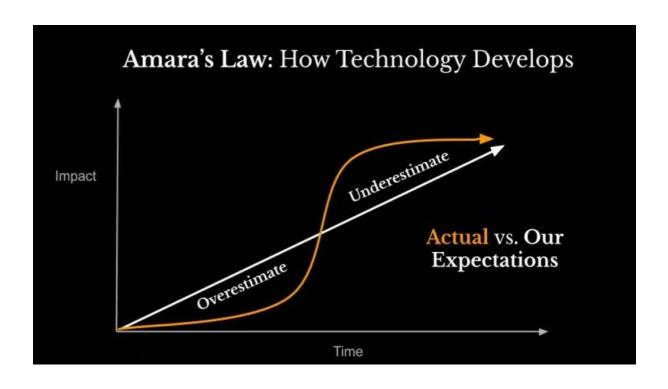


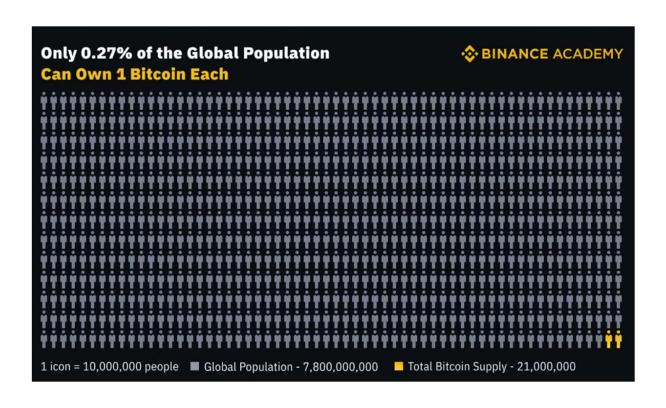






CURRENCY		PRICE	1Y	3Y	5Y
United States Dollar (USD)	0	3,042 SATS	-73.01 %	-79.77 %	-98.07 %
Euro (EUR)	0	3,593 SATS	-70.97 %	-79.22 %	-97.80 %
Singapore Dollar (SGD)	0	2,246 SATS	-71.23 %	-79.32 %	-97.95 %
Australian Dollar (AUD)	0	2,258 SATS	-70.21 %	-79.37 %	-97.98 %
British Pound Sterling (GBP)	0	4,206 SATS	-69.18 %	-78.37 %	-97.84 %
Canadian Dollar (CAD)	0	2,415 SATS	-69.84 %	-78.50 %	-97.88 %
Chinese Yuan (CNY)	0	471 SATS	-69.71 %	-78.73 %	-97.87 %
Indian Rupee (INR)	0	41 SATS	-71.72 %	-81.11 %	-98.14 %
Japanese Yen (JPY)	0	28 SATS	-72.28 %	-78.63 %	-98.00 %
Russian Ruble (RUB)	0	41 SATS	-73.03 %	-82.70 %	-98.23 %
Turkish Lira (TRY)	0	355 SATS	-77.59 %	-88.51 %	-99.29 %
Argentine Peso (ARS)	0	32 SATS	-78.95 %	-94.07 %	-99.68 %
Brazilian Real (BRL)	0	595 SATS	-70.80 %	-84.59 %	-98.68 %
Mexican Peso (MXN)	0	153 SATS	-68.45 %	-80.51 %	-98.08 %
Brazilian Real (BRL)	0	595 SATS	-70.80 %	-84.59 %	-98.68 %





Bitcoin & Traditional Assets ROI (vs USD)

	Bitcoin	Gold	S&P
			500
1 year:	+407%	-9%	+25%
2 year:	+591%	+18%	+48%
3 year:	+825%	+44%	+58%
4 year:	+934%	+35%	+72%
5 year:	+8,944%	+40%	+107%
6 year:	+23,024%	+50%	+118%
7 year:	+14,311%	+42%	+132%
8 year:	+42,599%	+39%	+157%
9 year:	+478,191%	+0.10%	+206%
10 year:	+1,467,287%	+5%	+263%



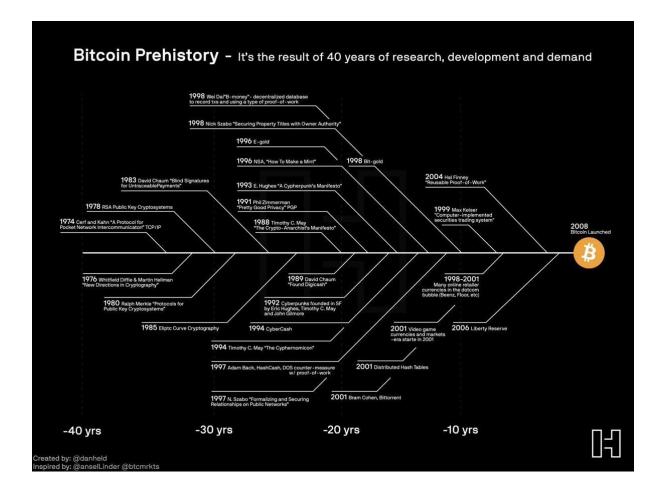
SCARCEST ASSET IN THE WORLD







BITCOIN SUPPLY: 21 MILLION



OWNING BITCOIN TODAY MEANS YOU'RE AN

EARLY ADOPTER







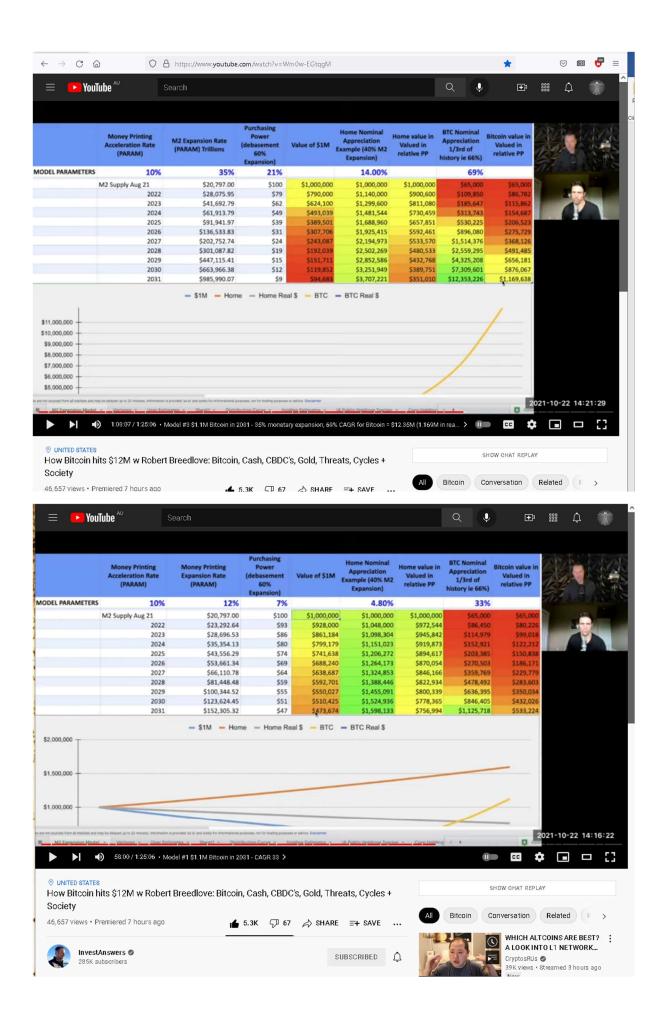






THAT'S WHY THE REWARD IS SO HIGH







THERE ARE 3.5 BILLION SMART PHONES ON EARTH



All of them

Can hold **BITCOIN**



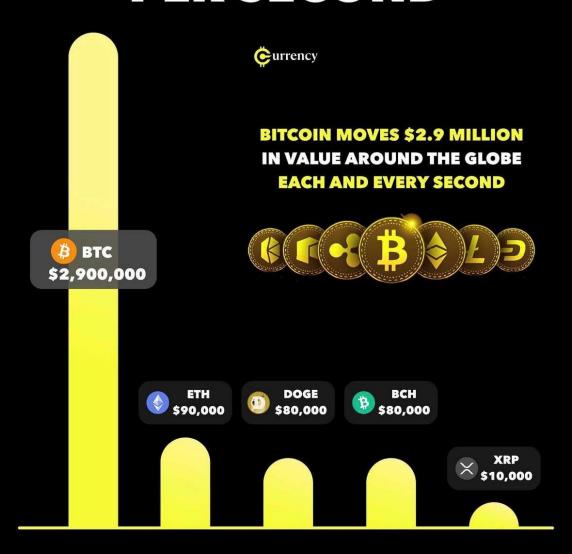
None of them Can hold **GOLD**







VALUE TRANSACTED PER SECOND

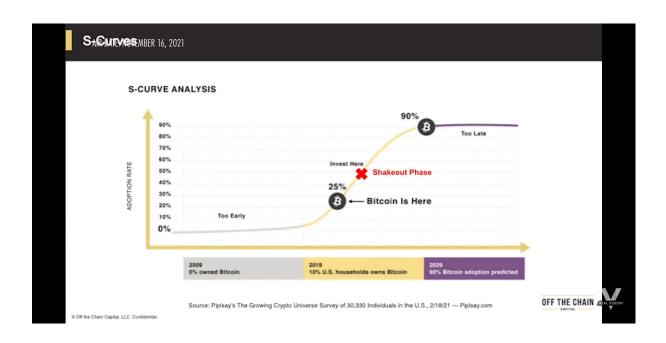




Halving Year (Estimated)	Block Number	Block Reward	BTC Circulating Supply	Circulating Supply Percentage
2009	0	50.00000000	10,500,000.00000000	0%
2012	210,000	25.00000000	15,750,000.00000000	50.00000006%
2016	420,000	12.50000000	18,375,000.00000000	75.00000008%
2020	630,000	6.25000000	19,687,500.00000000	87.50000010%
2024	840,000	3.12500000	20,343,750.00000000	93.75000010%
2028	1,050,000	1.56250000	20,671,875.00000000	96.87500011%
2032	1,260,000	0.78125000	20,835,937.50000000	98.43750011%
2036	1,470,000	0.39062500	20,917,968.75000000	99.21875011%
2040	1,680,000	0.19531250	20,958,984.37500000	99.60937511%
2044	1,890,000	0.09765625	20,979,492.18750000	99.80468761%
2048	2,100,000	0.04882812	20,989,746.09270000	99.90234386%
2052	2,310,000	0.02441406	20,994,873.04530000	99.95117198%
2056	2,520,000	0.01220703	20,997,436.52160000	99.97558604%
2060	2,730,000	0.00610351	20,998,718.25870000	99.98779307%
2064	2,940,000	0.00305175	20,999,359.12620000	99.99389658%
2068	3,150,000	0.00152587	20,999,679.55890000	99.99694833%
2072	3,360,000	0.00076293	20,999,839.77420000	99.99847420%
2076	3,570,000	0.00038146	20,999,919.88080000	99.99923713%
2080	3,780,000	0.00019073	20,999,959.93410000	99.99961859%
2084	3,990,000	0.00009536	20,999,979.95970000	99.99980932%
2088	4,200,000	0.00004768	20,999,989.97250000	99.99990468%
2092	4,410,000	0.00002384	20,999,994.97890000	99.99995236%
2096	4,620,000	0.00001192	20,999,997.48210000	99.99997620%
2100	4,830,000	0.00000596	20,999,998.73370000	99.99998812%
2104	5,040,000	0.00000298	20,999,999.35950000	99.99999408%
2108	5,250,000	0.00000149	20,999,999.67240000	99.99999706%
2112	5,460,000	0.0000074	20,999,999.82780000	99.99999855%
2116	5,670,000	0.0000037	20,999,999.90550000	99.99999929%
2120	5,880,000	0.0000018	20,999,999.94330000	99.9999966%
2124	6,090,000	0.0000009	20,999,999.96220000	99.9999984%
2128	6,300,000	0.0000004	20,999,999.97060000	99.9999993%
2132	6,510,000	0.0000002	20,999,999.97480000	99.99999997%
2136	6,720,000	0.0000001	20,999,999.97690000	99.99999999%
2140	6,930,000	0.00000000	20,999,999.97690000	100.00000000%

Traits of Money	Bitcoin	Gold	Fiat	
Verifiable	High	Moderate	Moderate	
Fungible	High	High	High	
Portable	High	Low	High	
Durable	Moderate	High	Low	
Divisible	High	Low	Moderate	
Scarce	High	Moderate	Low	
Established History	Low	High	Low	
Censorship resistant	High	Moderate	Low	
Unforgeable Costliness	High	High	Low	
*Openly Programmable	High	Low	Low	
*Decentralized	High	Moderate	Low	

^{*}Bitcoin's birth introduced two new traits, "Openly programmable" and "Decentralized"



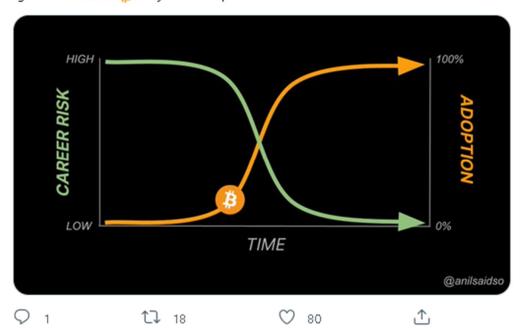


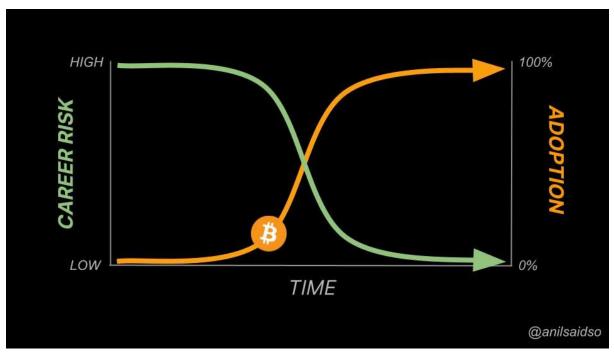
Anil @anilsaidso · 2h

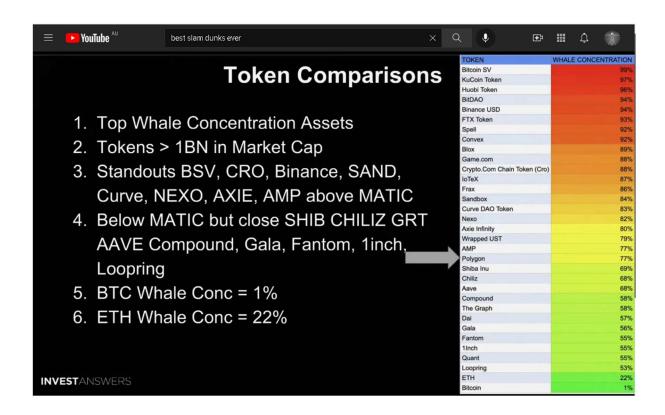
Capital allocators face career risk for betting on new technologies too early in their adoption curve.

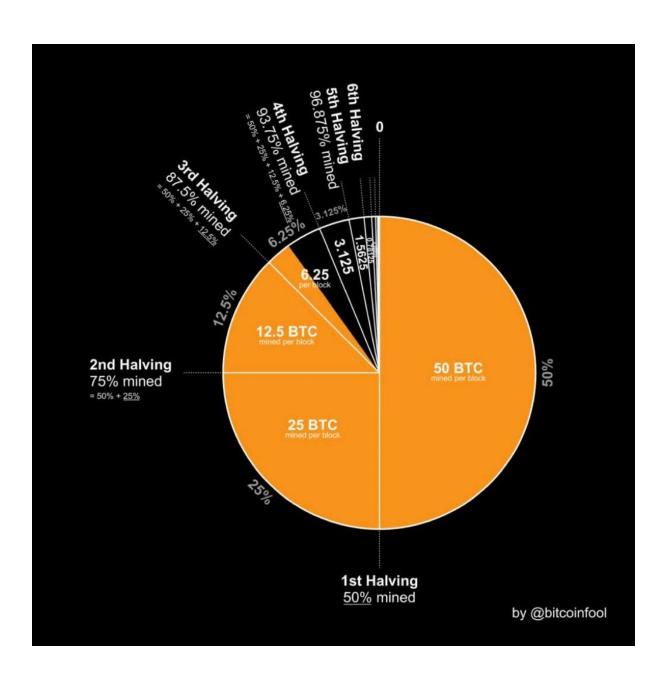
But eventually this flips and it can then be career-ending to continue to ignore a permanent shift in consumer behaviour.

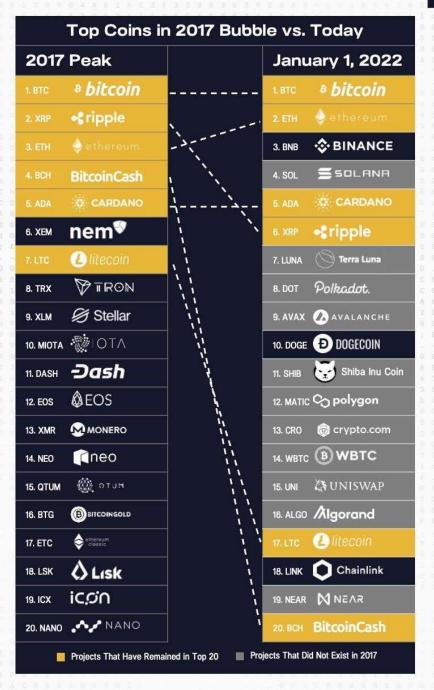
Ignore #Bitcoin 🗯 at your own peril.

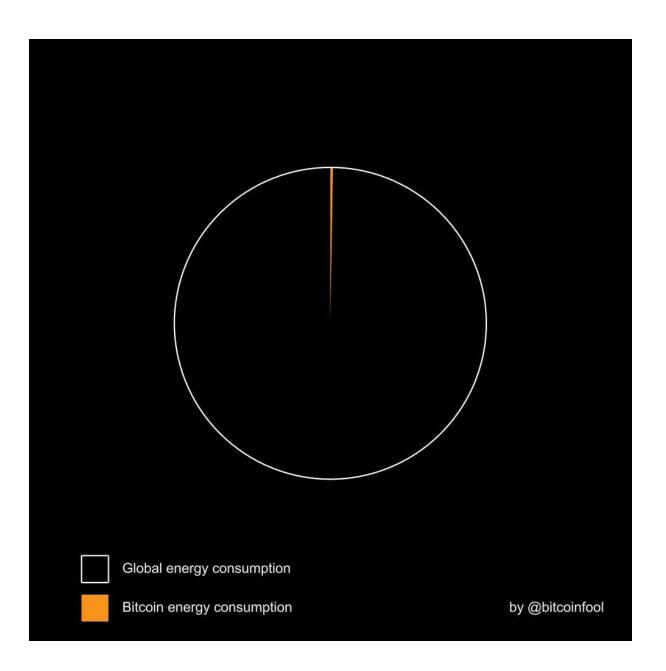


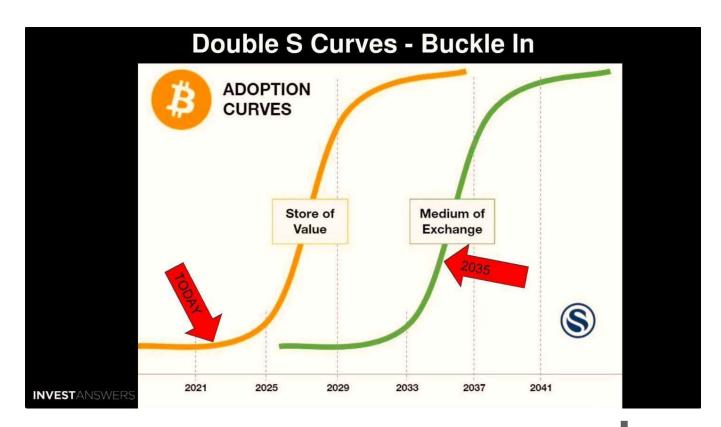










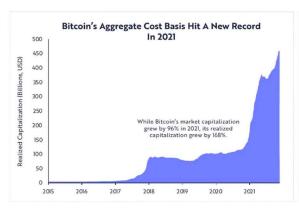


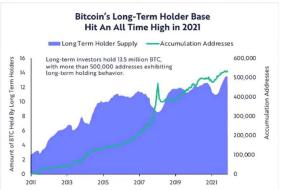
25 · Bitcoin



Bitcoin's Market Participants Are Maturing And Focused On The Long-Term

Despite increased exuberance as bitcoin scaled to a record high price, on-chain data suggests that bitcoin holders are focused on long-term fundamentals.





Note. Accumulation addresses are defined as addresses that have at least 2 incoming non-dust transfers and have never spent funds. Note: "Cong-term holder base" refers to Bitcoin that has not been moved in 155 days or more. Bitcoin dust" refers to the very small amounts of bitcoin leftover or unspent in a branaction that is lower in value than the minimum limit of a walld tranaction.

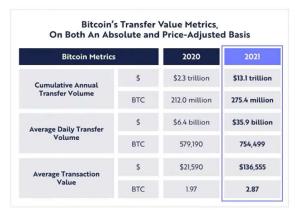
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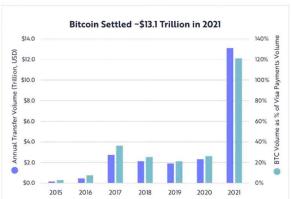




Bitcoin Is Taking Market Share As A Global Settlement Network

Bitcoin's cumulative transfer volume increased by 463% in 2021. Bitcoin's annual settlement volume has surpassed Visa's payments volume.





Note: All BTC transfer volume and transaction value metrics are on a change-adjusted basis. ARK's calculation for average change-adjusted transaction value uses both the total and the mean change-adjusted volume metrics aggregated by Glassnode. Visa payments volume is on a nominal-basis as reported by the company. It includes global consumer credit, consumer debit, and commercial payment volumes. Visa 2021 Q4 nominal payments volume is annualized based on historica of a visit of the visit of th

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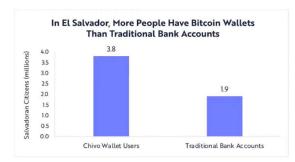
https://www.youtube.com/watch?v=2iUxGm6hYAc

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El Salvador Is The First Nation-State To Adopt Bitcoin As Legal Tender





- In September, El Salvador became the first country to adopt bitcoin as legal tender.
- As of December 31, 2021, El Salvador had purchased 1,391 BTC.
- An estimated 3.8 million people use El Salvador's Bitcoin wallet, Chivo, suggesting 84% adoption among eligible citizens.
- Chivo was settling \$2 million in remittances daily as of October 2021, accounting for roughly 12% of El Salvador's \$6 Billion in annual remittances and more than 2% of its GDP.

For Informational purposes only and should not be considered investment advice, or a recommendation to buy, sell or hold any particular security or cryptocurrency. Source: ARK Investment Management LLC, 2021 based on data sourced from: Forbes, Salvadoran President Nayib Bukele's Twitter Feed https://twitter.com/nayibbukele





Concerns About Bitcoin's Lack Of Sustainability Seem Ill-Informed

Our research suggests that Bitcoin has the potential to transform monetary history by providing financial freedom and empowerment in a fair, global, and distributed way.



Environmental

Bitcoin incentivizes new and more efficient forms of energy generation.

Bitcoin mining can capture natural gas that otherwise would be vented or flared.

Bitcoin mining can encourage investment in intermittent energy systems, increasing renewables share of energy provisioned to the grid.



Socia

Bitcoin offers a system of property rights without reliance on nation-states, protecting the purchasing power of people in countries with strict capital controls, highly inflationary currencies, or capricious sovernments.

Bitcoin is open to anyone as it does not rely on a centralized authority to determine the eligibility of participants.



Governance

Bitcoin is open, transparent, auditable, and predictable.

Bitcoin has no central point of failure and reduces potential human bias and error.

Bitcoin incorporates a unique system of checks and balances intended to encourage protocol innovation and maintenance, ensuring that any changes are in the interest of stakeholders.

Forecasts are inherently limited and cannot be relied upon. | For informational purposes only and should not be considered investment advice, or a recommendation to buy, sell, or hold any particular security or cryptocurrency

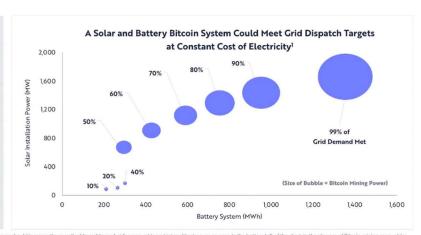
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Bitcoin Mining Could Revolutionize Energy Production

According to our research, bitcoin mining will encourage and generate more electricity from renewable carbon-free sources.

- As energy buyers, Bitcoin miners could incentivize new and more efficient forms of energy generation.
- According to ARK's research, intermittent energy sources like wind and solar could meet a larger percentage of grid demand if Bitcoin mining impacts the utility grid.
- Energy asset owners could become bitcoin
 minors
- The addition of Bitcoin mining into power developers' toolboxes should increase the overall addressable market for renewable and intermittent power sources. In the bottom left of the chart, in the absence of Bitcoin mining, renewables might satisfy only 40% of the grid's needs. In the top right of the chart, with the introduction of Bitcoin mining, solar and batteries could satisfy 99% of the grid's demand.



III Note: The addition of Bitcoin mining into power developers tootboxes should increase the overall addressable market for renewable and intermittent power sources. In the bottom left of the chart, in the absence of bitcoin mining, renewables can saitsly only 40% of the grid's needs. In the too grid for the chart, including Bitcoin mining, solar and batteries can saitsly of the grid's demand For informational purposes only and should not be considered investment advice, or a recommendation to buy, sell or hold any particular security or cryptocurrency. Source: ARK Investment Management LLC, 2021.





Now A Fraction Of Global Asset Values, Bitcoin Has Significant Appreciation Potential



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