

BITCOIN LIGHTNING BANK CASE STUDY V4

The Decentralized Strategy

ABSTRACT

The Bitcoin Compound Annual Growth Rate (CAGR) from 2015 to 2025 is said to be 60%, meaning that the value grew 60% each year on average for ten years. Institutions are investing into Bitcoin Exchange Traded Funds (ETFs) which shoulder all of the Bitcoin volatility, while many corporations are implementing creative fund-raising initiatives referred to as “accretive dilution” to sell shares and purchase Bitcoin for their Bitcoin Treasury. In August 2020, MicroStrategy (now Strategy) made news headlines of their Bitcoin accumulation initiative. In recent years, many Bitcoin Treasury Companies have followed in Strategy’s footsteps however they are all highly centralized entities that use traditional financial products in traditional markets. Bitcoin Lightning Banks have a substantial competitive advantage to the industry by integrating all borrowing and lending products into the Bitcoin Layer 2 Lightning Network, which offers an open, global, and instantaneous settlement layer to provide superior yield while receiving revenue generating service fees. This case study shines a light on the massive potential that a Bitcoin Lightning Bank has when fusing Bitcoin and innovative Lightning Network technologies with traditional markets to challenge the status quo. Additional research and development are required to prove the feasibility of a Lightning Bank; however, I believe that it is not out of reach for those willing to put in the effort and resources.

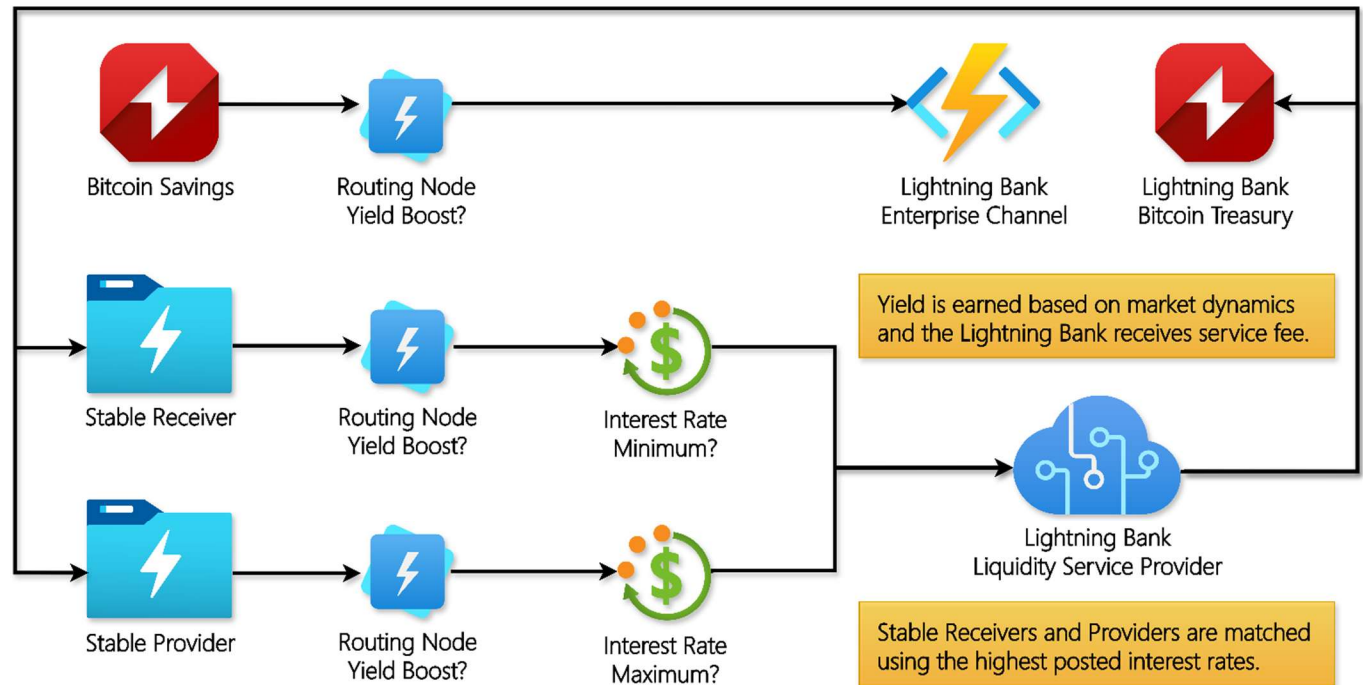
Kyle Hutchinson



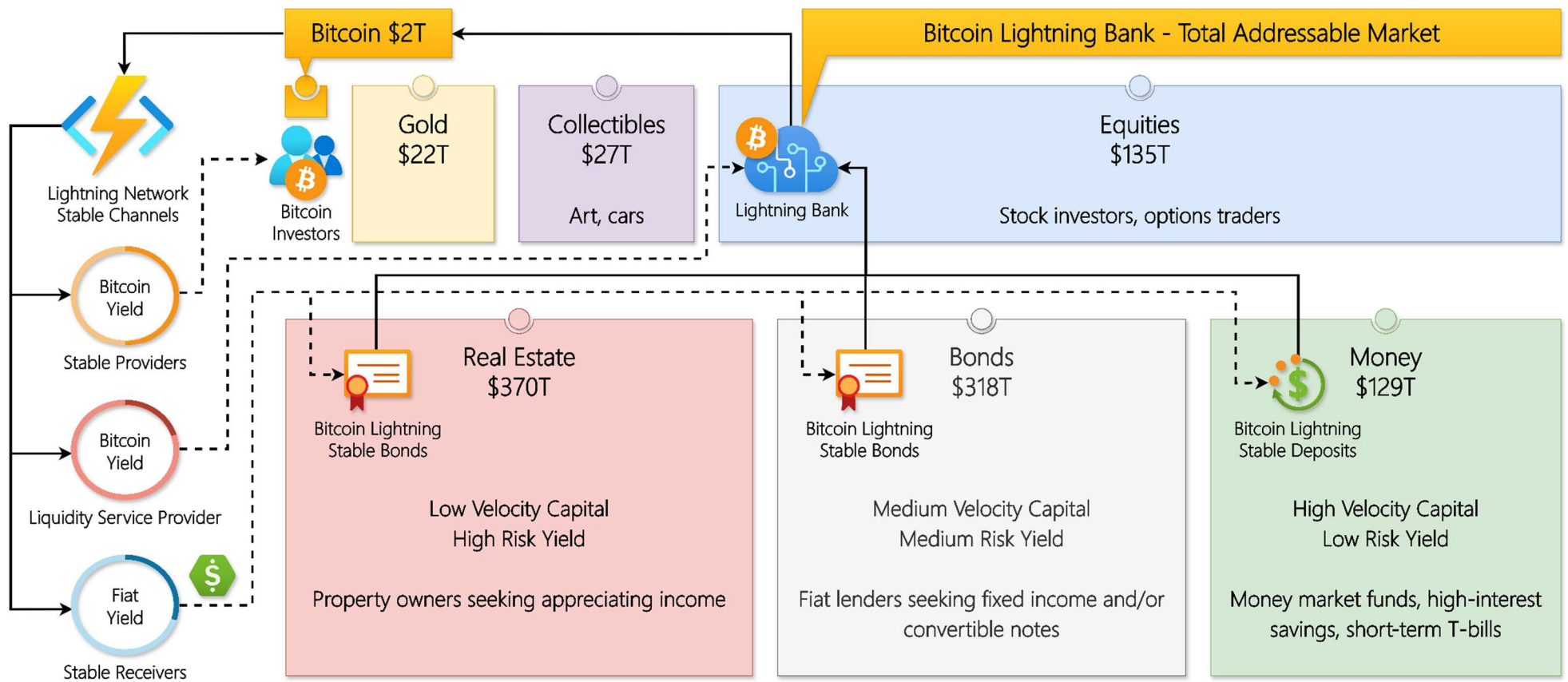
Bitcoin Lightning Bank Overview and Features

Stable Receivers are Fiat Investors that Buy Bitcoin with Fiat Price Stability to Earn Yield

Stable Providers are Bitcoin Investors that 2X Long Bitcoin to Earn Yield



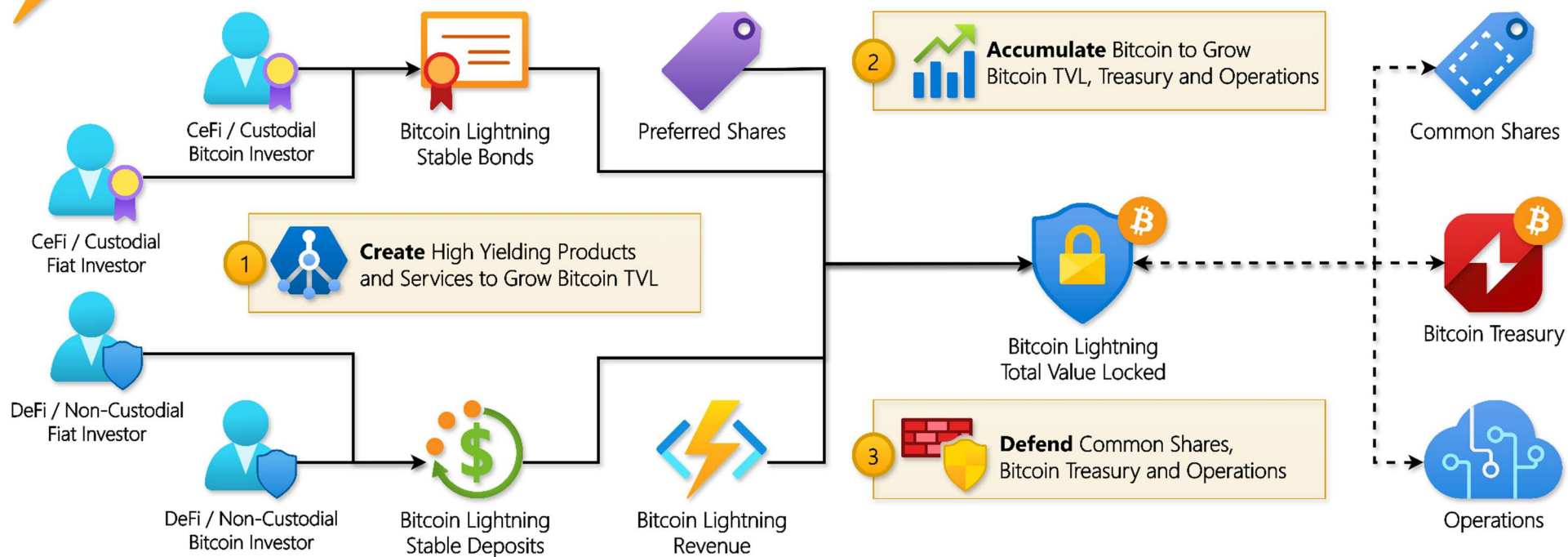
Feature Comparison	Bitcoin Treasury Companies and Bitcoin Banks	Bitcoin Lightning Banks	Bitcoin Lightning Bank Stable Bonds	
Financial Products	Centralized Finance (CeFi)	Centralized and Decentralized Finance (CeFi & DeFi)	Flexible Rates	Fixed or variable rates based on percentage of stable Fiat or Bitcoin CAGR
Financial Rails	Traditional	Traditional and the Bitcoin Lightning Network	Tax-Deductible	Interest payments are tax-deductible bank expenditures
Financial Management	Custodial	Custodial and non-custodial	Securable	Bitcoin is stored in unique Stable Channels to extract yield
Financial Markets	National market limitations	DeFi is globally accessible	Callable	If Bitcoin overperforms then the bond can optionally be paid back
Interest Rate Makers	Company	DeFi is an open and free market	Extendible	If Bitcoin underperforms then the bond can optionally be extended
Bitcoin Participants	Company	Bank, Fiat Investors, and Bitcoin Investors	Non-Convertible	Share dilution is not necessary due to the superior yield
Bitcoin Yield Distribution	Concentration within Company	Distributed fairly between market participants		
Bitcoin Liquidation Risk	Concentration within Company	Distributed between Stable Providers		
Bitcoin Liquidation Priority	Bond holders are paid first	Bank is paid first by liquidated Stable Providers		
Bitcoin Service Fees	None	Bitcoin-denominated liquidity service fees		
Bitcoin Strategy Tools	Profit, Stock, Debt, and Bitcoin Treasury	Same + Bitcoin TVL to defend Bitcoin Treasury		
Bitcoin Total Value Locked Growth Rate	CeFi = 1 Bitcoin buy adds 1 Bitcoin to BTC TVL 500K BTC buys 500K BTC TVL in Custody	DeFi = 1 Bitcoin buy adds 2 Bitcoin to BTC TVL 500K BTC buys 1M BTC TVL in Lightning Network		



Use Cases		Centralized Finance (CeFi)	Decentralized Finance (DeFi)		
		Custodial	Non-Custodial Stable Receiver	Non-Custodial Stable Provider	Non-Custodial
Stable Channel	Stable Receiver	Lightning Bank	Fiat Investors	Lightning Bank	Fiat Investors
	Stable Provider	Lightning Bank	Lightning Bank	Bitcoin Investors	Bitcoin Investors
Lightning Bank	Goal	Store Bitcoin that was procured from liabilities (ex: bonds, preferred stock) into a Stable Receiver and/or Bitcoin Treasury into a Stable Provider then provide liquidity services to extract and distribute yield			Provide liquidity services to extract and distribute yield
	Goal	Purchase TradFi products to earn interest or dividends	Self-custody Bitcoin in Stable Channel for greater control	Purchase TradFi products to earn interest or dividends	Self-custody Bitcoin in Stable Channel for greater control
	Risk	Low	Low	Low	Low
Fiat Investor	Reward	High	High	Maximum	Maximum
	Goal	Send Bitcoin to Lightning Bank to manage the 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation			Self-custody Bitcoin in 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation
	Risk	High	High	High	High
Bitcoin Investor	Reward	High	High	Maximum	Maximum



Bitcoin Lightning Bank - The Ultimate Bitcoin Strategy

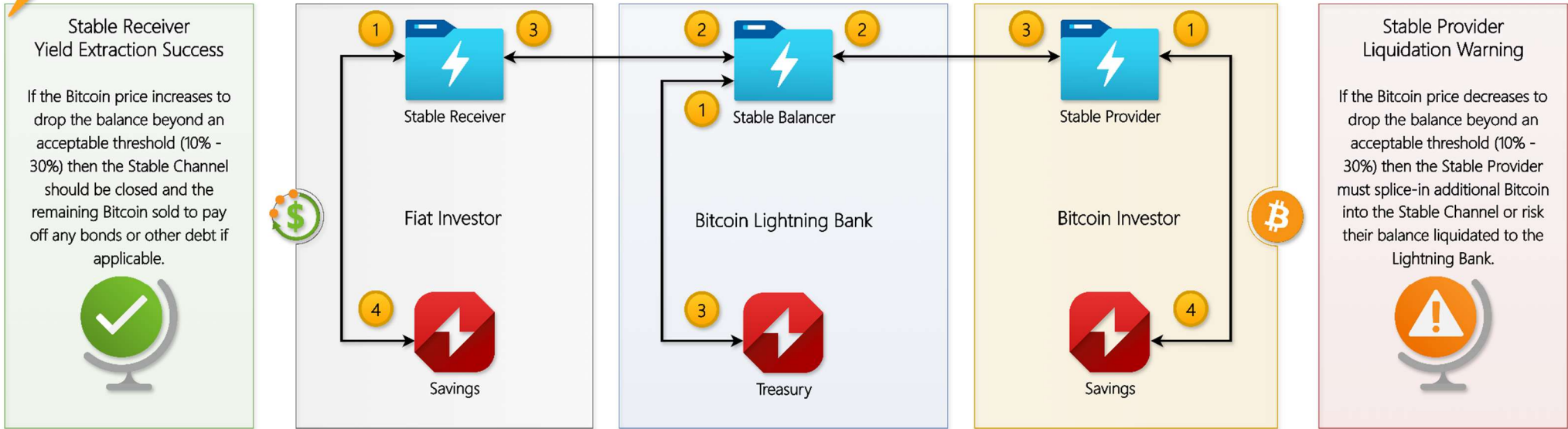


Bitcoin Strategy	Create and Accumulate in Breadth	Defend in Depth
Bitcoin Lightning Stable Bonds	Bank sells bonds to Fiat or Bitcoin Investors then buys Bitcoin on their behalf and deposits into a custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield	Mitigate risks by implementing market optimization techniques. If Bitcoin overperforms then the bank closes the Stable Channel and sells remaining Bitcoin to pay back the bond. If Bitcoin underperforms then the bank can either extend the bond or buy it out.
Bitcoin Lightning Stable Deposits	Bank provides service for Fiat or Bitcoin Investors to deposit owned Bitcoin into a non-custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield	Mitigate risks during Bitcoin drawdowns by ensuring Bitcoin Investors either top-up their positions or face liquidation to the Bank
Bitcoin Lightning Revenue	Bank receives Lightning Network service fees to grow Bitcoin Lightning TVL and earn yield as a Stable Balancer or Stable Provider	Mitigate risks by earning Bitcoin revenue from products and services
Bitcoin Lightning Total Value Locked	Bank enables custodial and non-custodial access to Lightning Network Stable Channels & Enterprise Channels to earn yield and grow Treasury or Operations	Mitigate risks during Bitcoin drawdowns by ensuring Bitcoin Investors either top-up their positions or face liquidation to the Bank
Preferred Shares	Bank sells Preferred Shares to buy Bitcoin and grow Bitcoin Lightning TVL and earn yield as a Stable Receiver	Mitigate risks by allocating revenue to Stable Receivers so that Bitcoin Yield covers dividend then shares bought back when channel closes
Common Shares	Bank sells Common Shares to buy Bitcoin and grow Treasury or Operations	Share dilution is protected by above practices if done efficiently
Bitcoin Treasury	Bank can deposit Bitcoin Treasury into the Bitcoin Lightning TVL to earn yield	Treasury liquidation is protected by above practices if done efficiently





Bitcoin Lightning Bank - Stable Channel Life Cycle



The Lightning Bank Stable Balancer is an intelligent automated market maker (AMM) that maintains a liquidity pool to splice in and out of the Lightning Channels between a Stable Receiver and Stable Provider so that the Stable Receiver has a guaranteed stable Fiat balance backed by Bitcoin.

Stable Channel Life Cycle		Description
1	Start or Splice-In Stable Channel	Stable Receiver, Stable Balancer, and Stable Provider add Bitcoin into the Lightning Channel to either initiate the connection or keep it active and just splice-in liquidity.
2	Upon Bitcoin Price Movement, Send Bitcoin to Stable Balancer	If the Bitcoin price increases, then the Stable Receiver sends Bitcoin to the Lightning Bank Stable Balancer. If the Bitcoin price decreases, then the Stable Provider sends Bitcoin to the Lightning Bank Stable Balancer.
3	Rebalance Stable Receiver and Distribute Yield	Periodically, the Lightning Bank Stable Balancer will send Bitcoin to the Stable Receiver to ensure a stable fiat balance and then distribute Bitcoin Yield if available to all participants based on the pre-defined yield agreements.
4	Close or Splice-Out Stable Channel	Stable Receiver and Stable Provider remove Bitcoin from the Lightning Channel to either close the connection or keep it active and just splice-out liquidity.

Yield Estimates	Year 1 Start	Year 5 End				
Bitcoin Compound Annual Growth Rate		25%	30%	35%	40%	45%
1 Bitcoin USD Value	\$0.10M USD	\$0.31M USD	\$0.37M USD	\$0.45M USD	\$0.54M USD	\$0.64M USD
Stable Receiver Balance	10 BTC	3.28 BTC	2.69 BTC	2.23 BTC	1.86 BTC	1.56 BTC
	\$1M USD	\$1M USD	\$1M USD	\$1M USD	\$1M USD	\$1M USD
Stable Provider Balance	10 BTC	Variable due to market dynamics				
Total Yield		6.72 BTC	7.31 BTC	7.77 BTC	8.14 BTC	8.44 BTC
		\$2.05M USD	\$2.71M USD	\$3.48M USD	\$4.38M USD	\$5.41M USD
Average Annual Yield		1.34 BTC	1.46 BTC	1.55 BTC	1.63 BTC	1.69 BTC
		\$0.41M USD	\$0.54M USD	\$0.70M USD	\$0.88M USD	\$1.08M USD
Total Average Annual Yield Percentage		13.44% BTC	14.62% BTC	15.54% BTC	16.28% BTC	16.88% BTC
		41.02% USD	54.28% USD	69.68% USD	86.56% USD	108.20% USD
Average Annual Yield Percentage Allocation						
Lightning Bank 20%		2.68% BTC	2.92% BTC	3.10% BTC	3.26% BTC	3.38% BTC
Stable Receiver 30%		12.33% USD	16.26% USD	20.90% USD	26.25% USD	32.43% USD
Stable Provider 50%		6.72% BTC	7.30% BTC	7.76% BTC	8.14% BTC	8.44% BTC
Average Annual Yield on 20K Bitcoin Total Value Locked						
Lightning Bank		268 BTC	292 BTC	310 BTC	326 BTC	338 BTC
Stable Receivers		\$123.29M USD	\$162.63M USD	\$208.96M USD	\$262.46M USD	\$324.33M USD
Stable Providers		672 BTC	730 BTC	776 BTC	814 BTC	844 BTC
Average Annual Yield on 400K Bitcoin Total Value Locked						
Lightning Bank		5,360 BTC	5,840 BTC	6,200 BTC	6,520 BTC	6,760 BTC
Stable Receivers		\$2.5B USD	\$3.3B USD	\$4.2B USD	\$5.3B USD	\$6.5B USD
Stable Providers		13,440 BTC	14,600 BTC	15,520 BTC	16,280 BTC	16,880 BTC
Average Annual Yield on 1M Bitcoin Total Value Locked						
Lightning Bank		13,400 BTC	14,600 BTC	15,500 BTC	16,300 BTC	16,900 BTC
Stable Receivers		\$6.2B USD	\$8.1B USD	\$10.5B USD	\$13.1B USD	\$16.2B USD
Stable Providers		33,600 BTC	36,500 BTC	38,800 BTC	40,700 BTC	42,200 BTC

10 Year Burndown Yield Estimates	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
20% Bitcoin Compound Annual Growth Rate										
Annualized Bitcoin Yield	16.67%	13.89%	11.57%	9.65%	8.04%	6.70%	5.58%	4.65%	3.88%	3.23%
Average Annualized Bitcoin Yield	11.96%									8.38%
Cumulative Bitcoin Yield	16.67%	30.56%	42.13%	51.77%	59.81%	66.51%	72.09%	76.74%	80.62%	83.85%
Remaining Bitcoin Yield	83.33%	69.44%	57.87%	48.23%	40.19%	33.49%	27.91%	23.26%	19.38%	16.15%
25% Bitcoin Compound Annual Growth Rate										
Annualized Bitcoin Yield	20.00%	16.00%	12.80%	10.24%	8.19%	6.55%	5.24%	4.19%	3.36%	2.68%
Average Annualized Bitcoin Yield	13.45%									8.93%
Cumulative Bitcoin Yield	20.00%	36.00%	48.80%	59.04%	67.23%	73.79%	79.03%	83.22%	86.58%	89.26%
Remaining Bitcoin Yield	80.00%	64.00%	51.20%	40.96%	32.77%	26.21%	20.97%	16.78%	13.42%	10.74%
30% Bitcoin Compound Annual Growth Rate										
Annualized Bitcoin Yield	23.08%	17.75%	13.65%	10.50%	8.08%	6.22%	4.78%	3.68%	2.83%	2.18%
Average Annualized Bitcoin Yield	14.61%									9.27%
Cumulative Bitcoin Yield	23.08%	40.83%	54.48%	64.99%	73.07%	79.28%	84.06%	87.74%	90.57%	92.75%
Remaining Bitcoin Yield	76.92%	59.17%	45.52%	35.01%	26.93%	20.72%	15.94%	12.26%	9.43%	7.25%
35% Bitcoin Compound Annual Growth Rate										
Annualized Bitcoin Yield	25.93%	19.20%	14.23%	10.54%	7.81%	5.78%	4.28%	3.17%	2.35%	1.74%
Average Annualized Bitcoin Yield	15.54%									9.50%
Cumulative Bitcoin Yield	25.93%	45.13%	59.36%	69.89%	77.70%	83.48%	87.76%	90.94%	93.29%	95.03%
Remaining Bitcoin Yield	74.07%	54.87%	40.64%	30.11%	22.30%	16.52%	12.24%	9.06%	6.71%	4.97%
40% Bitcoin Compound Annual Growth Rate										
Annualized Bitcoin Yield	28.57%	20.41%	14.58%	10.41%	7.44%	5.31%	3.79%	2.71%	1.94%	1.38%
Average Annualized Bitcoin Yield	16.28%									9.65%
Cumulative Bitcoin Yield	28.57%	48.98%	63.56%	73.97%	81.41%	86.72%	90.51%	93.22%	95.16%	96.54%
Remaining Bitcoin Yield	71.43%	51.02%	36.44%	26.03%	18.59%	13.28%	9.49%	6.78%	4.84%	3.46%