

Safex Cash Emission Curve

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Safex Cash

Safex Cash is the currency of the Safex Marketplace. Safex Cash is necessary to pay all transaction fees to the network. Every action that takes place on the Blockchain network requires the payment of some network fee. Safex Cash is obtainable through proof of work mining as well as from staking Safex Tokens. Safex Cash is also the principal payment method when fulfilling the purchase of products and services of the marketplace.

Money Supply of Safex Cash. The main function for Safex Cash is to act as an intermediary instrument between parties, that is, to facilitate the business of the market by acting as a common medium of exchange (Mises, 1953). In order to achieve that goal, it should meet the demand for currency so as to enable all transactions on the marketplace. Taking into consideration that Safex Cash should be generated from the start of the Safex Blockchain, the emission of the money supply must adjust according to demand for money supply. Demand for Safex Cash depends on platform growth - growth of new active users (both buyers and sellers) and the number of transactions. Consequently, the emission curve for Safex Cash is designed to follow the rate of marketplace adoption.

Safex marketplace is the innovation - it applies new ideas (encryption, cryptocurrency) and new, more effective technology (blockchain) to e commerce. Therefore, the adequate model that represents future growth of the Safex marketplace is known as “diffusion of innovation”. It is a process by which an inno-

vation is communicated internally over time among the members of a social market system (Rogers 1983). The diffusion follows an S-shaped curve which means that the innovation requires a lengthy period from the time it becomes available until mass adoption is achieved. In our case, after the marketplace is released, only a class of innovators are interested in using it (represented with a slow, and deliberate start). As it is communicated in a social system, other groups of consumers begin adopting the marketplace (represented with accelerated growth). In the last phase, growth rate of diffusion decelerates and eventually reaches the saturation level.

The Safex Cash emission curve is going to follow an S shape. There is a limit of 1 billion (1,000,000,000) Safex Cash that will be emitted in the next 20 years (2 minutes per block). Half of the coins will be mined in first 7 years, while the other half will be emitted in the following 13 years.

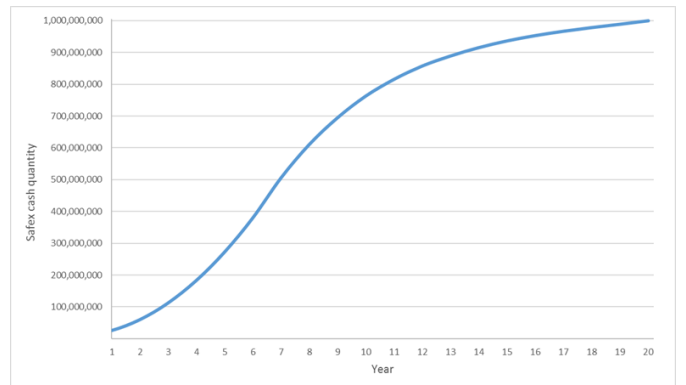


Figure 1: Safex cash emission curve

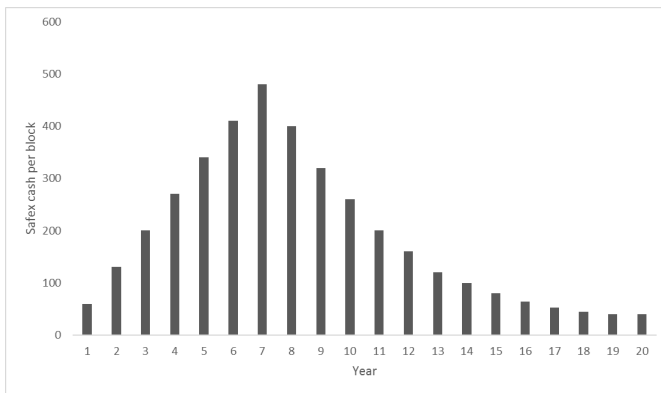


Figure 2: Annual mining reward per block

The purpose of a Safex Cash airdrop. In order to seed the network with activity and be able to cover fees for the initialization of the marketplace, 1 percent of Safex Cash will be airdropped. One half of that amount (0.5% of the money supply or 5 million coins) will be obtainable by the holders of Safex Tokens during the start of the Safex Blockchain. The other 0.5% will be assigned to the Safex development team.

Airdropped coins have a key role in the marketplace operation in the first months of launch, but they will also highly affect the future growth of the Safex platform. An initial condition for using the marketplace is the existence of a certain amount of currency. Without circulation of the currency, operations wouldnt be possible. So, airdropped Safex Cash are literally enabling usage of the platform.

The best way to put money in circulation is to distribute it to those who want to use it. Consequently, coins will be distributed to Safex Token holders and the development team. One smaller amount of the teams currency will be used to cover development costs. The main part will be invested in marketing and promotion in order to increase the number of market participants so as to galvanize trading on the platform. Also, Safex Cash will be used to finance future development of the project using the Safex marketplace mechanisms of service providers. The amount of dividends that

Safex holders will earn are directly dependent on the gross merchandise volume. This creates a strong incentive for Safex holders to promote the marketplace and spend (and earn) their Safex Cash from the platform. That is why a significant amount of airdropped Safex Cash will be used for marketing purposes and for buying goods and services.

Safex Cash Divisibility. Safex Cash is divisible to 10 decimal places. 1.0000000000

Names of divisible quantities:

0.0001 Safex Cash = 1 Dabek

0.001 Safex Cash = 1 Todor

0.01 Safex Cash = 1 Cortez

0.1 Safex Cash = 1 Cabral

Proof of Work Mining. Safex Cash is distributed using an egalitarian proof of work mining algorithm. The algorithm is based on the CryptoNight algorithm (Seigen, 2013). It is unrealistic to think that hardware manufacturers will incorporate more expensive methods to produce application specific machines for mining the coins. Therefore, general purpose computers such as the average home computer and at best graphic card arrays will be efficient at mining Safex Cash. This means that the ability for ordinary people to participate in the support of the network and acquisition of Safex Cash is more evenly distributed. It is for this reason and the Money Supply Distribution that throughout the entire lifetime of the Safex Marketplace and its Blockchain there will be rewards available to those who are adopting the network.

Emission of new coins follows the marketplace adoption model. For example, in years that are expected to have an exponential growth of users and transactions, money supply growth will also be exponential, and vice versa. This means that when there is higher demand for money, mining rewards will be higher. Total supply of Safex Cash is limited to one billion coins and when it reaches the maximum miners will depend on the transaction fees alone

which will be ample with widespread usage of the currency.

Table 1: Safex cash mining schedule.

Year	Block height	Mining reward	Total supply
airdrop	0	/	10,000,000
1	262,500	60	25,750,000
2	525,000	130	59,875,000
3	787,500	200	112,375,000
4	1,050,000	270	183,250,000
5	1,312,500	340	272,500,000
6	1,575,000	410	380,125,000
7	1,837,500	480	506,125,000
8	2,100,000	400	611,125,000
9	2,362,500	320	695,125,000
10	2,625,000	260	763,375,000
11	2,887,500	200	815,875,000
12	3,150,000	160	857,875,000
13	3,412,500	120	889,375,000
14	3,675,000	100	915,625,000
15	3,937,500	80	936,625,000
16	4,200,000	64	953,425,000
17	4,462,500	52	967,075,000
18	4,725,000	44	978,625,000
19	4,987,500	40	989,125,000
20	5,259,375	40	1,000,000,000

References

- Mises L. (1953.) *The Theory of Money and Credit*, Yale University Press, New Haven, CT, USA
- Rogers E. (1983.) *Diffusion of innovations (3rd ed.)*. New York: Free Press of Glencoe, USA
- Seigen et al. (2013.) *CryptoNight Hash Function*, cryptonote.org