



# ETC Cooperative

## 2021 Retrospective

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# ETC Cooperative

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# Background

## What is Ethereum Classic (ETC)?

Ethereum Classic (ETC) is a peer-to-peer payment platform and a platform for decentralized applications. ETC is Ethereum technology with a Bitcoin philosophy.



ethereum  
classic

### Like Bitcoin, ETC:

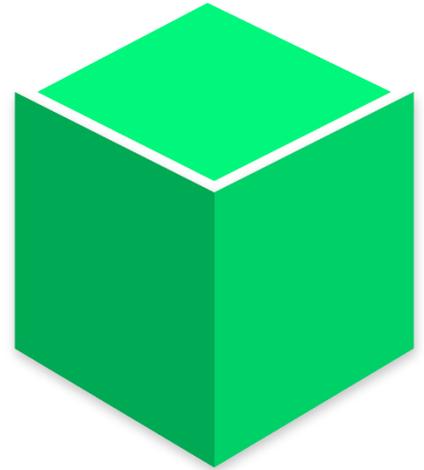
- Is digitally scarce, with a fixed supply monetary policy.
- Uses the Proof of Work consensus algorithm
- Values censorship resistance and trust minimization.
- Values security and safety over throughput.
- Protocol aims for multi-decade stability.
- Is [socially scalable](#) within the ecosystem.
- Grassroots movement with no ICO or premine.

### Unlike Bitcoin, ETC:

- Has [rich statefulness](#).
- Has a deterministic [turing machine](#) bounded by gas (the EVM).

## What is the ETC Cooperative?

The Ethereum Classic Cooperative Inc (“ETC Coop”) is a non-profit legal entity that has held 501(c)(3) public charity status since 2018. Donations to ETC Coop are tax-deductible under IRC Section 170 for US taxpayers, both individual and corporate. Enterprises investing in infrastructure or other “public goods” within the ETC ecosystem can do so in a more tax-efficient manner by donating to the ETC Coop rather than investing directly.



The mission of the ETC Coop is to steward the development of the Ethereum Classic protocol and to support the growth of a mature ecosystem around that protocol. There are three pillars to this mission:

- **Accelerate adoption** of ETC technology by individuals and enterprises through effective branding, marketing, and education.
- **Foster collaboration** between ecosystem participants including developers, miners, investors, enterprises, and end-users.
- **Mature Governance and Transparency** – efficient and transparent governance framework, including use of funds.

This 2021 retrospective for the ETC Coop is organized around these three pillars - **Adoption, Collaboration and Transparency.**

# Overview

## Development challenges

2021 was another difficult year for the ETC ecosystem, following on from the 51% attacks which rocked ETC during August 2020, though the market did not reflect those difficulties.

DFG defunded the majority of their ETC activities in January 2021, dropping their grants program, cancelling their incubator program, and cutting back the scope of their development efforts to only cover funding for the Core-Geth client, to focus on the Polkadot ecosystem. The Expedition block explorer was left in a broken state and their twitter accounts and websites were abandoned, with no public announcement.

On a more positive note, the Magneto hard fork was successfully activated in July, bringing Ethereum Berlin support to the ETC mainnet.



Diego was hired in August, as the ETC Cooperative's first full-time core developer, working on the Hyperledger Besu codebase. In previous calendar years we have been dependent on contracted work on Besu to support hard-forks and have had no resources dedicated to ongoing maintenance of the client.

IOHK revived Mantis in August 2020 and discussions about the treasury were ongoing through until September 2021, when ETC Coop dropped support for ECIP-1098. In the aftermath, IOHK left the ETC ecosystem.

In the last quarter of 2021, there were an explosion of NFT projects, mainly clones of Ethereum NFT projects, but also some ETC-specific projects. It was wonderful to see this happening organically. Projects included ETCpunks, ETCBayc, Classic Savages and Classic Pharaohs.



There was also a DEX project on the verge of launching in late 2021 (Classic Swap), but the launch was cancelled due to regulatory concerns. At the start of 2022, HebeSwap was launched, another DEX project, together with an ENS-like project from the same team.



In December 2021, DFG informed the Core-Geth team and Bob that they were planning to defund work on Core-Geth as well. Bob negotiated with the developers to sign new independent contractor accounts with the ETC Coop. The core-geth client is an essential service for the ETC ecosystem and we were left with little option.

Heading into 2022, ETC Coop is now the sole legal entity funding ETC protocol work and is the home of all the core developers. Funding from Grayscale is expected to cease in April.

Thankfully, the ETC Cooperative is sitting on large cash reserves. Significant ETC price rises since April 2021 (see below sub-section "ETC market action") has resulted in several million dollars' worth of contributions from Grayscale into the coffers over the last 8 months of the year. These contributions have been an order of magnitude higher than in previous years, leaving us with several years of funding runway, which was never previously the case. However, this funding will not sustain the Coop in perpetuity, therefore other forms of funding will need to be obtained.

We still intend to propose a new limited and open treasury model during 2022, following the failure of the IOHK-led proposal during 2021.

## ETC market action

The development challenges of ETC were not reflected at all in markets, with 2021 being an exceptional year in terms of \$ETC price action. ETC started the year at \$5.70, peaked at \$167 and ended the year at \$34. That is an annual return of 496% (with a 27x return at the peak for anybody fortunate enough to take profits near that ATH).

### Ethereum Classic (ETC) Price Chart



These annual returns were higher than Ethereum (\$730 to \$3715 = 409% annual return) and much, much higher than Bitcoin (\$29,352 to \$47,192 = 61% annual gain).

This led to renewed interest in ETC for traders and community members alike.

# Adoption – Development and Infrastructure

The ETC Cooperative continues to fund critical infrastructure for the ETC ecosystem.

- Hyperledger Besu client
- Core-Geth client
- BlockScout block explorer
- Public RPC endpoints

Each node in the ETC network uses either Core-Geth (~94%) or Hyperledger Besu (~6%), with both pieces of software implementing the same ETC protocol. In previous years there were other choices (Classic Geth, Parity-Ethereum, OpenEthereum, Multi-Geth) but that choice narrowed down to just the two clients in mid 2020.

## Funding a core developer for Hyperledger Besu



Diego López León joined the ETC Cooperative at the end of August as our first full-time core developer and our first full-time software engineer since the departure of Yaz Khoury in 2020.

Diego is a very experienced Java developer who has been working as a blockchain core developer since 2017, first as part of Rootstock (both Bitcoin and Ethereum protocol work) and more recently as part of the Inter-American Development Bank's blockchain group, where he was developing solutions using Hyperledger Besu and other clients/protocols.

Diego has focused on Hyperledger Besu development, along with other general software engineering and infrastructure work for the Coop.

## Hyperledger Besu Support

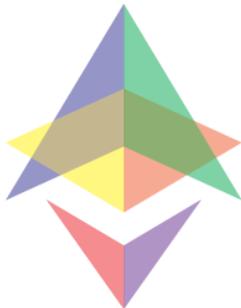
Hyperledger Besu is an open-source Ethereum client developed under the Apache 2.0 license and written in Java. Besu is a strategic client for the ETC ecosystem because Besu allows users to develop enterprise applications with high performance and security.



Prior to Diego's departure we had relied on one-off contracts (first ChainSafe, then Whiteblock and Antoine Toulme) for our work on Besu. That work was always focused purely on ETC hard-forks and we were not contributing to the general health and maintenance of the Hyperledger Besu codebase. Since Diego has started it has become apparent what a difference it makes to have a full-time developer. He has found and fixed several consensus issues which would have had a very serious impact on ETC end-users if they had not been addressed in a timely manner.

All supporting infrastructure managed by ETC Cooperative continues to run exclusively on Besu. This "[dog-fooding](#)" is critical to the health of the software. If Besu does not meet our own needs, how can we expect it to meet the needs of other end-users?

## Funding Core-Geth development



The [Core-Geth client](#) was created by ETC Core in 2020 as an alternative to Multi-Geth and took over a super-majority of "market share" when both OpenEthereum and Multi-Geth dropped support for ETC shortly after the Phoenix hard-fork. It is likely used by every ETC miner and by every exchange, due to their familiarity with Geth, which dominates the Ethereum ecosystem, and which is the basis for client software for nearly every other EVM chain.

Bob had a call with Terry Culver (CEO of ETC Labs) in September, following our [withdrawal of support](#) for the ECIP-1098 Treasury proposal. Terry floated the question of whether ETC Cooperative would fund Core-Geth were ETC Labs to withdraw their funding. Both Bob and Terry agreed that a "smooth transition" would be preferable. Core-Geth is such key infrastructure that it was out of the question for development work on the client to be unfunded.

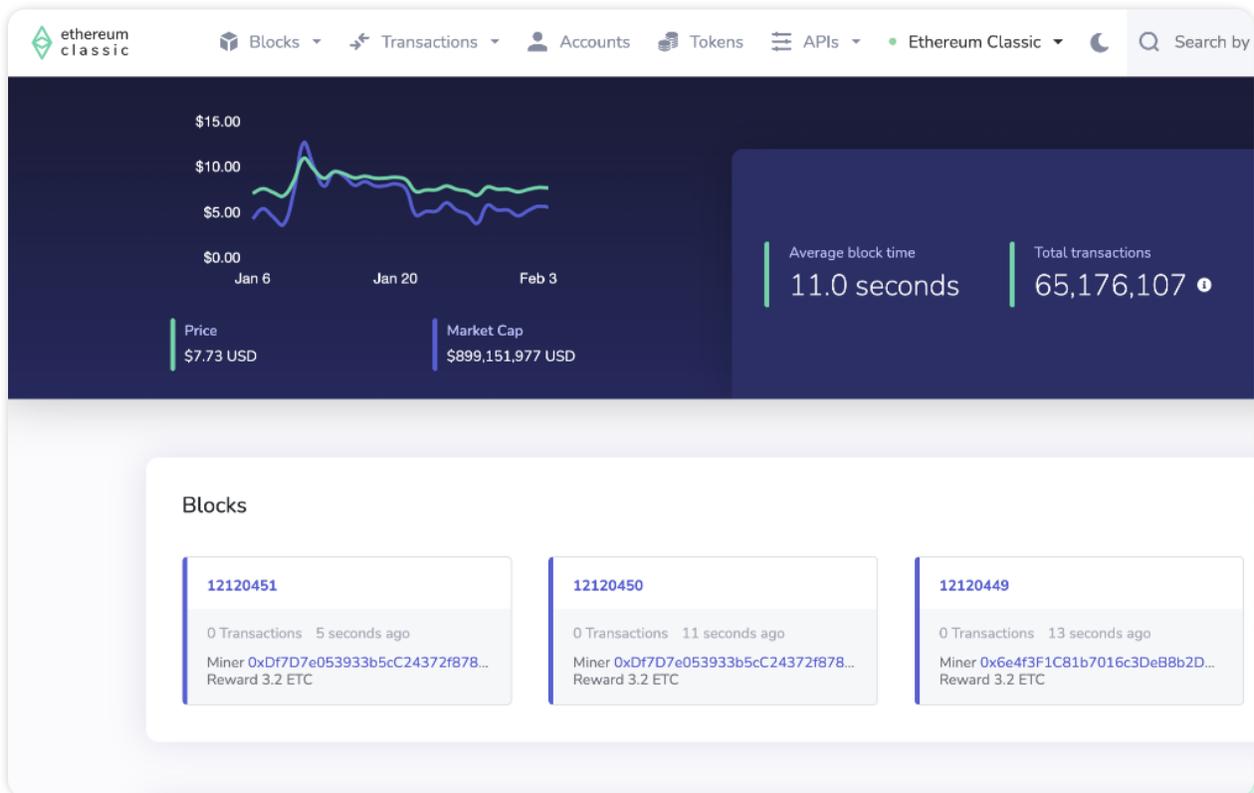
In December the trigger was pulled on that transition, and independent contractor agreements were signed with Isaac Ardis and Chris Ziogas to continue their work on Core-Geth. They will collaborate with Diego under the ETC Core banner.

This means that all core developers for ETC are now being funded by ETC Cooperative, which is not ideal from a decentralization point of view, but is the reality of the shrinking ETC ecosystem, with first IOHK and then ETC Labs departing during 2021.

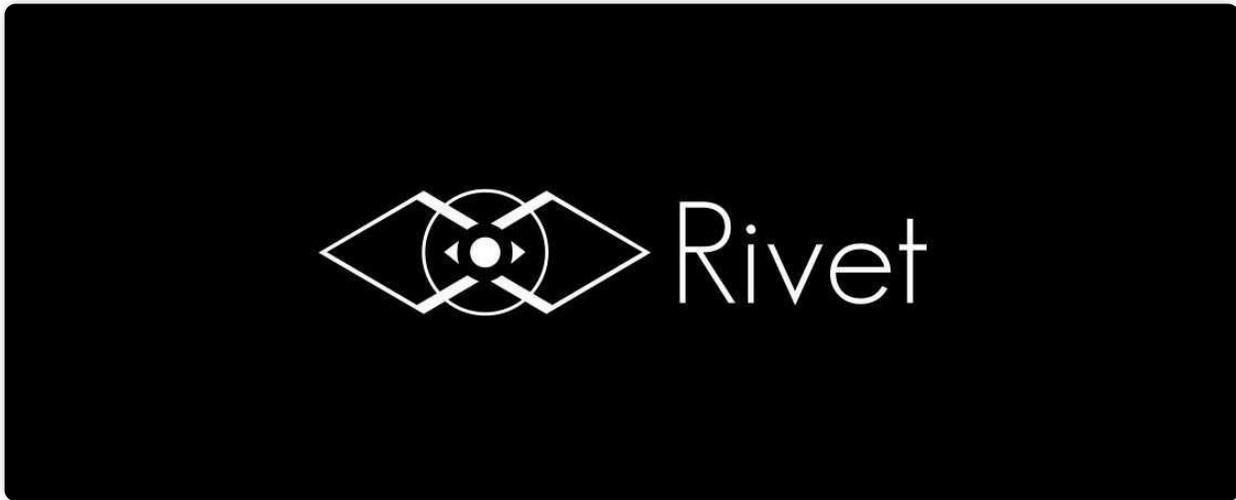
## Blockscout Block Explorer

[BlockScout](#) by POA Network is the most popular ETC block explorer available with a pleasant user experience. POA ran an ETC mainnet instance as a public service during 2018 and early 2019, before the ETC Cooperative took on that responsibility, also adding instances for the Kotti and Mordor testnets.

This explorer is very widely used and is even more important since [ETC Labs dropped support](#) of their own [Expedition.dev](#), which was the primary alternative.



## RPC endpoints switched to Rivet



ETC Coop has provided free public endpoints since 2019 which are used by the majority of ETC wallets.

We suffered uptime and reliability issues during 2021. It is almost certain that the reliability issues were just due to increased transaction count as ETC price spiked starting in April 2021.

In November we switched our self-hosted ETC mainnet endpoint over to Rivet-hosted servers, with service guarantees and 24/7 operational staffing.

We are now serving ~90M requests per day.

### Challenges

Historically, the biggest challenge for development and infrastructure work has been our limited internal capacity. We were cash-constrained and only had 2 or 3 individuals at any point, and only one of those ever as a full-time developer.

We enter 2022 with three core developers, who are working together as a team, maintaining both Core-Geth and Hyperledger Besu, along with associated development work around the client software itself (ie. ETC Node Explorer, CloudFlare wrappers around Rivet service).

We could still make good use of further developers. Only two of the three developers from the Core-Geth team came across into ETC Cooperative, so hiring at least one more developer would just be restoring the support level which that team previously had. It is not easy to hire blockchain developers, though, so such hiring that might take some time.

# Adoption – Comms and Marketing

Communication and Marketing are a key function for the ETC Cooperative, but an area where we have significantly under-performed during 2021.

## No ETC Summit



There was no ETC Summit held during 2020 or 2021, with the Covid pandemic in full swing. In previous years, these Summits have been important events to bring the community together and update everybody on the latest ETC happenings and projects.

ETC Summit has not historically been able to charge for tickets and has been a straight (and expensive) sunk cost. It was not a good use of funds, so remains on hold for the time being.

## Other Conferences and Hackathons

We did not attend any conferences during 2021, due to Covid-19 travel restrictions. Various ETC community and core developer calls took place throughout the year, but we did not take part in any other virtual conferences.

Our experience from the conferences which we attended during 2019 and 2020 was that nearly all the value derived from the one-on-one networking and the human connections we made. That experience is sorely missing at virtual conferences.

Our hope heading into 2022 is that in-person conferences will be resuming and that we can return to the value which that networking delivered in previous years. We are a little more geographically distributed than we were in previous years (Canada, US, Argentina, Greece) so there will also be value to us meeting in person at conferences where that is possible.

Given our increased reserves, it may be possible for us to reconsider sponsoring conferences during 2022. That was not viable in previous years, because of our restricted funding.

## ETC Weekly



The ETC Weekly newsletter was relaunched in October 2020 but has been far from a weekly publication during 2021.

The average open rate has been quite high (as has been the case with all our MailerLite campaigns), but we have had way too little

content to make the newsletter really impactful.

- [ETC Weekly: Goodbye Ethercluster... Hello Mystique](#) – November 10<sup>th</sup>, 2021
- [ETC Weekly | ETC Cooperative Newsletter - The Latest in ETC](#) – October 1<sup>st</sup>, 2021
- [ETC Weekly | ETC Cooperative Newsletter - The Latest in ETC](#) – May 8<sup>th</sup>, 2021
- [Magneto upgrade, Mantis monthly update, Saturn Protocol v2, Keccak work on Besu](#) – February 17<sup>th</sup>, 2021
- [ETC Weekly #10 | ETC DeFi, WETC Liquidity Pools, Sushiswap, ETC Treasury, Why Keccak, IOHK Mantis Update](#) – January 19<sup>th</sup>, 2021
- [Happy New Year ETC!](#) – January 4<sup>th</sup>, 2021

## Community and Developer Calls

There were several community calls and core developer calls during 2021. The core developer calls are used for decision making within the ECIP process and steering the direction for the ETC protocol. The community calls, led by Istora, are more casual and free-flowing conversations amongst community members.

- [Development Tiers, Roadmap, Erigon, Corporates, SHA3 - ETC Community Call 006](#) – December 28<sup>th</sup>, 2021
- [Q&A with Bob Summerwill – Community Call 005](#) – December 21<sup>st</sup>, 2021
- [Community Call #4](#) – December 14<sup>th</sup>, 2021
- [ETC Core Devs Call 21](#) - December 21<sup>st</sup>, 2021
- [Community Call #3](#) – December 7<sup>th</sup>, 2021
- [Community Call #2](#) - November 30<sup>th</sup>, 2021
- [ETC Core Devs Call 20](#) - November 18<sup>th</sup>, 2021
- [ETC Core Devs Call 19](#) - September 24<sup>th</sup>, 2021
- [ETC Core Devs Call 18](#) – August 20<sup>th</sup>, 2021
- [Ethereum Classic Keccak Mining Community Call](#) – June 21<sup>st</sup>, 2021
- [ETC Core Devs Call 17](#) – May 21<sup>st</sup>, 2021
- [ETC Call 16 - Preliminary proto-treasury meeting](#) - May 13<sup>th</sup>, 2021
- [Community Call #1 \(The beer summits\)](#) - March 9<sup>th</sup>, 2021

## Content

ETC Cooperative put out blog posts and other articles throughout the year in various media. They were primarily blog posts on our own website and on Medium, but also a small number of videos on YouTube.

- [ETC Cooperative now funding Core-Geth](#) – December 22<sup>nd</sup>, 2021
- [ETC Cooperative Q3 and October Board Package](#) - November 26<sup>th</sup>, 2021
- [Switch to Rivet](#) - November 2<sup>nd</sup>, 2021
- [ETC Cooperative July/August Board Package](#) - September 23<sup>rd</sup>, 2021
- [ETC Cooperative withdraws support for ECIP-1098](#) - September 20<sup>th</sup>, 2021
- [Welcome, Diego López León!](#) – September 8<sup>th</sup>, 2021
- [Charles Hoskinson joins ETC Coop board](#) – July 8<sup>th</sup>, 2021
- [ETC Cooperative Q1 2021 Transparency Report](#) - May 12<sup>th</sup>, 2021
- [Polls in favor of an Ethereum Classic Treasury](#) - April 23<sup>rd</sup>, 2021
- [What is Ethereum Classic?](#) - April 20<sup>th</sup>, 2021
- [XLauncher: Configure and Start Your ETC Besu Node in Seconds](#) – April 20<sup>th</sup>, 2021
- [ETC Cooperative January, February Board Package](#) - April 6<sup>th</sup>, 2021
- [How to Use Hyperledger Besu on Windows](#) – Feb 22<sup>nd</sup>, 2021
- [ETC Cooperative 2020 Retrospective](#) - January 19<sup>th</sup>, 2021
- [Why Ethereum Classic should adopt a treasury](#) - January 13<sup>th</sup>, 2021

## Media

The ETC Cooperative actively engages in community management, content creation, moderation throughout many social media channels. It also actively participates in media engagements including webinars, AMAs, and traditional interviews.

The ETC Cooperative has been featured by well-known crypto media outlets in 2021. It maintains open communication with various journalists and regularly shares comments on events and developments in ETC.

- Coindesk
  - [Valid Points: The Fate of Ethereum Miners When There's Nothing Left to Mine](#)
  - [DCG to Buy \\$50M in Shares of Grayscale's Ethereum Classic Trust](#)
  - [Ethereum Classic's 'Irrational' Price Tripling Bears Hallmark of Dogecoin Frenzy](#)
  - [Market Wrap: Ethereum Classic Steals Show From Bitcoin, Ether, Even DOGE](#)
  - [Also-Ran Ethereum Classic Catches Up Amid Crypto Market Frenzy, Hits Record](#)
- Coin Telegraph
  - [Takeaways: 5 years after The DAO crisis and Ethereum hard fork](#)

- [Ethereum Classic price has nearly doubled days after Digital Currency Group's \\$50M bet](#)
  - [Ethereum Classic devs announce upcoming hard fork](#)
- Nasdaq
  - [Ethereum Classic Should See Big Gains From the Magneto Upgrade](#)
- AMB Crypto
  - [Ethereum Classic announces Magneto upgrade; Will the price react?](#)
  - [Cardano's Hoskinson joins Ethereum Classic Cooperative's Board of Directors](#)
  - Plus numerous [other articles](#) primarily related to price.
- Peter Cordi – October 9<sup>th</sup> 2021
  - [Ethereum Classic Treasury DEBATE: Does ETC need a treasury?](#)
  - Many other ETC videos from Peter:
    - <https://www.youtube.com/c/PeterCordi/videos>
- Huge numbers of videos from Savage Profits
  - <https://www.youtube.com/c/SavageProfits/videos>

## Challenges

Covid travel restrictions have meant that most conferences have been cancelled, and even small scale public ETC events have not been very practical. That leaves only online dialog, primarily on Discord, but also on Twitter, which can be very abrasive and toxic at times, and is certainly not appealing to many people.

ETC Cooperative internal issues have meant that the expected volume and quality of communications and community engagement have not been met during 2021. This was particularly apparent in the ETC Weekly newsletter, for which only 6 editions were published during 2021. The twitter accounts were also very low volume, which is especially problematic for **eth\_classic**, with its 600K followers.

ETC Cooperative plans to hire a Communications and Marketing Manager in 2022 to help address these communications shortcomings.

# Collaboration – Protocol

The ETC Cooperative actively supports ETC core protocol upgrades and network events through our collaborative partnerships and engagement with the community.

Protocol updates are coordinated using the ECIPs (Ethereum Classic Improvement Process) process. We actively participate in that process. The protocol is the most important collective asset for the ETC ecosystem.

## Magneto hard fork



The ETC Magneto hard-fork was successfully activated on 23rd July.

Magneto was specified in the following Meta ECIP:

- [ECIP-1103: Magneto EVM and Protocol Updates](#)

The EF released their [Dodging a Bullet](#) blog post on 18th May revealing a serious DOS attack vector which had been addressed both by serious architectural changes in the Geth client and protocol changes in Berlin. The attack vector was still active in ETC, making Magneto an essential security upgrade, not just a “copying ETH” update.

There was no contention around the hard-fork and activation was a smooth process.

## ECIP-1098 Proto Treasury System

ETC Cooperative was supportive of IOHK's proposal for a proto-Treasury for the majority of 2021, holding regular calls with IOHK to try to iterate the initial ECIP into something which could meet the clearly communicated expectations of the community:

- [ECIP 1098: Proto Treasury System](#)

ETC Cooperative ultimately [withdrew support for ECIP-1098](#) in September 2021.

*We spent many months collaborating with IOHK on reworking the published proposal. It became apparent over time that IOHK's vision of a treasury was sharply at odds with our expectations.*

*The final straw was IOHK's rejection of the "sweeping mechanism" which Bob had proposed. Unspent client team funds would have been swept forward into the community grants pool. That mechanism was intended to ensure that high USD equivalent funding due to rising ETC prices or due to differences in spending across client teams would not end up as excessive private profit for the client teams.*

*That restraint on private profits was a "hard no" to IOHK but was a "must have" for ETC Cooperative.*

*Without adequate systems in place to ensure transparency, accountability and ultimately a capped profit margin, the treasury system that IOHK desired was never going to be accepted by the community and with valid reason.*

IOHK withdrew the ECIP in October 2021, ceased development work on the Mantis client and announced their effective exit from the ETC ecosystem.

There was little practical impact for the cessation of development on Mantis, because there were only ever a handful of Mantis nodes active on the ETC mainnet. The larger impact was to the future of the ETC ecosystem, with a major player no longer active and engaged in future protocol improvements.

While that specific proposal is now dead, that does not mean that there is no potential for an alternative treasury proposal. Indeed, it is the position of the ETC Cooperative that for the sustainability of the ETC protocol there is no practical alternative other than a treasury system. It will need to be significantly more limited in scope and more open and equitable than ECIP-1098, though.

## ECIP-1049 – Change of hash algorithm to Keccak256

During 2021, ETC Cooperative has funded two separate contracts to continue the development of ECIP-1049. That is a continuation of the support which was first announced in January 2020:

- [ETC Cooperative support for switch of mining POW to Keccak256 proposal](#)

The primary focus has been on Hyperledger Besu (which now has official support in the development mainline), but some work has also been done on Core-Geth.

- Contract signed with Antoine Toulme in January to integrate support for Keccak256 mining into Besu and assist in the operation of the Astor testnet.
- Contract signed with Antoine Toulme in April to make general improvements to the mining support in Besu and to implement Keccak256 support in Core-Geth

## Challenges

The ETC ecosystem shrunk considerably during 2020 and 2021 and there are only a handful of individuals who have the skillset to propose sensible protocol improvements or other proposals. We have shown that we can absorb changes from Ethereum, but we have not demonstrated the ability to consistently make ETC-specific improvements.

A short-term path to improvement there is to expand the ETC Core development team, but for real sustainability we need to attract developers who are building on ETC and can also contribute to this work.

What protocol improvements have been made to ETC outside of Ethereum protocol down streaming, lifetime? It is not a long list:

- [ECIP 1010: Delay Difficulty Bomb Explosion](#)
- [ECIP 1041: Remove Difficulty Bomb](#)
- [ECIP 1017: Monetary Policy and Final Modification to the Ethereum Classic Emission Schedule](#)
- [ECIP 1099: Calibrate Epoch Duration](#)
- [ECIP 1100: MESS \(Modified Exponential Subjective Scoring\)](#)

# Collaboration – Relationships

## DCG and Grayscale

On January 22<sup>nd</sup> 2020, it was announced that Grayscale was extending its funding for ETC Cooperative for a further two years. Since the creation of the ETC Cooperative, Grayscale has been the primary funder, and their ongoing generosity is much appreciated.

Beyond the funding they provide, Barry Silbert has been a board member and great help from the very start. At the 2020 AGM, Craig Salm joined the board and has met with Bob and Alison each week. His support and counsel have been invaluable.

Grayscale's funding extension in January 2020 expires in April 2022 and it appears very unlikely that it will be extended. However, ETC price rises from April 2021 onwards have resulted in record USD contributions to the ETC Cooperative, leaving us sitting on over \$5M USD in the bank account. If Grayscale funding does cease, it will be with the ETC Cooperative in a very strong financial position until a treasury or other funding sources can sustain the ecosystem and ETC Cooperative.



## Challenges – DFG and ETC Labs exit

Digital Finance Group (DFG) first entered the ETC ecosystem in 2018, with the ETC Labs banner legal entity and with the ETC Core “brand” for the core development team (initially ETC Labs Core).

ETC Labs had an incubator program, which went through several cohorts. They also had a grants program. The ETC Core team supported Core-Geth, together with many other supporting projects, including a block explorer, OpenRPC, Signatory, EVM-LLVM, Jade and more.

DFG defunded the majority of their ETC activities in January 2021, with only the Core-Geth developers remaining. The Expedition block-explorer was left in a broken state and their twitter accounts and websites were abandoned, with no corresponding announcement.



ETHEREUM CLASSIC  
LABS



At the tail end of the year, they defunded the remaining Core-Geth development work as well, effectively exiting the ETC ecosystem entirely heading into 2022. This was a major blow to ETC, though not unexpected.

Thankfully, ETC Cooperative were in a position where we were able to take over that funding and ensure a smooth transition for the Core-Geth team, so there was no impact to end-users.

ETC Labs was the primary commercial entity within the ETC ecosystem for much of the past few years, and their absence will be felt. Terry Culver, their CEO, has been very helpful in coordinating a smooth transition, and we are very grateful to him for that.

## Challenges - IOHK return and exit

One unexpected but hugely welcome side-effect of the 51% attacks was the return of IOHK and Charles Hoskinson to the ETC ecosystem. IOHK's ETC-specific Mantis client had been defunded and undeveloped since December 2018, but Charles decided to revive Mantis to production status and to start work on proposed protocol updates for Checkpointing and for the introduction of a Treasury.



Charles released a series of videos and was very active on Discord on his return and it was a delight to see him back. Charles was invited to join the ETC Cooperative board for the AGM in February 2021.

IOHK also hosted a series of showcase presentations for various of the proposed 51% attack mitigations.

Following the ETC Cooperative's withdrawal of support for ECIP-1098, IOHK exited the ETC ecosystem.

## What Happens Next?

The **ETC Cooperative 2022 Roadmap** document details planned work items for the ETC Cooperative in 2022. Following Ethereum's "The Merge" hard fork, ETC will be in a quite unique position, as the only major L1 chain instance with both PoW and smart contract support.

The dynamics of ETC protocol development are very different heading into 2022, with the ETC Cooperative as the sole legal entity supporting core developers and actively funding the ecosystem. Those developers cannot dictate the protocol roadmap, but equally there are precious few other people within the ETC ecosystem with the skillset to productively contribute to the ECIP process.

We have the beginnings of a Defi ecosystem and NFT ecosystem heading into 2022 and must help to encourage further growth in those areas.

## Transparency - Reports

Throughout 2021 the ETC Cooperative have been publishing reports on our activities on monthly and quarterly cadence.

- [2020 Retrospective Report](#)
- [January/February Board Package](#)
- [Q1 Transparency Report](#)
- [April/May Board Package](#)
- [Charles Hoskinson joins ETC Coop board](#)
- [Q2 Transparency Report](#)
- [July/August Board Package](#)
- [Q3 and October Board Package](#)

All of these reports and regulatory filings can be found in the [Filings page](#) on the ETC Cooperative website.



# Transparency - Financials

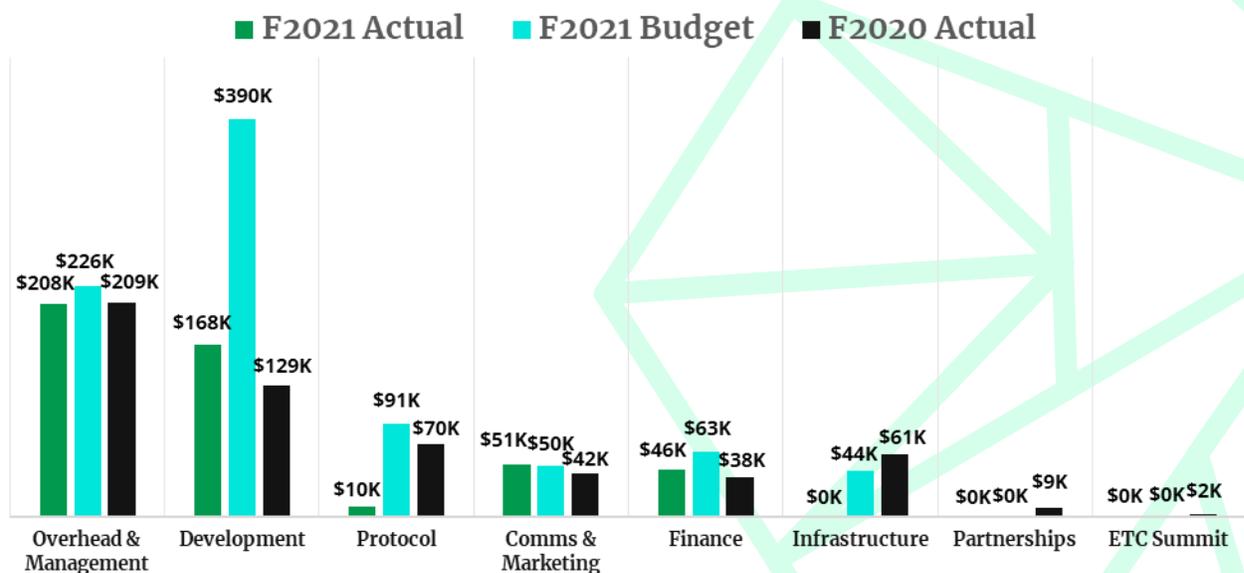
For the year ended December 31, 2021

While following general accounting principles, these figures and charts may not be in compliance with IFRS ("International Financial Reporting Standards") or FASB ("Financial Accounting Standards Board").

## Fiscal 2021 Financial Results

### Expenditures in \$US

	F2021 Actual	F2021 Budget	Variance \$ F2021 vs F2021 Budget	F2020 Actual	Variance \$ 2021 vs F2020
Overhead & Management	\$207,884	\$226,394	\$(18,510)	\$209,264	\$(1,381)
Development	\$167,856	\$390,000	\$(222,144)	\$128,603	\$39,254
Protocol	\$10,000	\$91,000	\$(81,000)	\$70,350	\$(60,350)
Comms & Marketing	\$51,429	\$50,096	\$1,333	\$42,325	\$9,104
Finance	\$45,908	\$62,795	\$(16,887)	\$38,083	\$7,824
Infrastructure	\$0	\$44,300	\$(44,300)	\$60,919	\$(60,919)
Partnerships	\$0	\$0	\$0	\$8,792	\$(8,792)
ETC Summit	\$0	\$0	\$0	\$1,978	\$(1,978)
<b>Total Expenditures</b>	<b>\$483,077</b>	<b>\$864,585</b>	<b>\$(381,508)</b>	<b>\$560,314</b>	<b>\$(77,237)</b>
<b>Non-cash Items</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$28,686</b>	<b>\$(28,686)</b>
<b>Total Operating Expenses</b>	<b>\$483,077</b>	<b>\$864,585</b>	<b>\$(381,508)</b>	<b>\$589,000</b>	<b>\$(105,923)</b>



Overall, F2021 actual costs were 400K less than budget, on a cash item basis. This significant difference was due to a pivot from the roadmap, which included added developers and development work and infrastructure and protocol work. In 2021, at least 6 months were focused on working on a treasury system that in the end was not supported.

F2021 was a very pared down year, in terms of expenses, as travel and conferences were still on hold due to Covid-19, and grants, protocol, and infrastructure work was also held off, due to lack of resources (man-power) and to concentrate on the treasury proposal.

With the addition of Diego in September 2021 and Isaac and Chris in January, more development, protocol, and infrastructure work is likely for 2022 and beyond.

The following breaks down what is generally allocated to each category:

### ***Overhead & Management***

This category includes salaries and payments for the Executive Director as well as all overhead, office, legal and related expenses.

### ***Development***

This includes salary for the developer relations role and costs of all in-house development work.

### ***Protocol***

This includes all work related to client software and protocol-level work – primarily Hyperledger Besu for 2021.

### ***Communication & Marketing***

This includes salary for communication manager and all advertising, promotional work, marketing, conference sponsorship, website costs, and all related travel.

### ***Finance***

This includes costs related to filing form 990 with the IRS, accounting software, and finance salaries.

### ***Infrastructure***

This covers costs of hosted services which we provide to the ecosystem.

### ***Partnerships***

There were no partnership costs in 2021

### ***ETC Summit***

There was no ETC summit in 2021 or 2020.

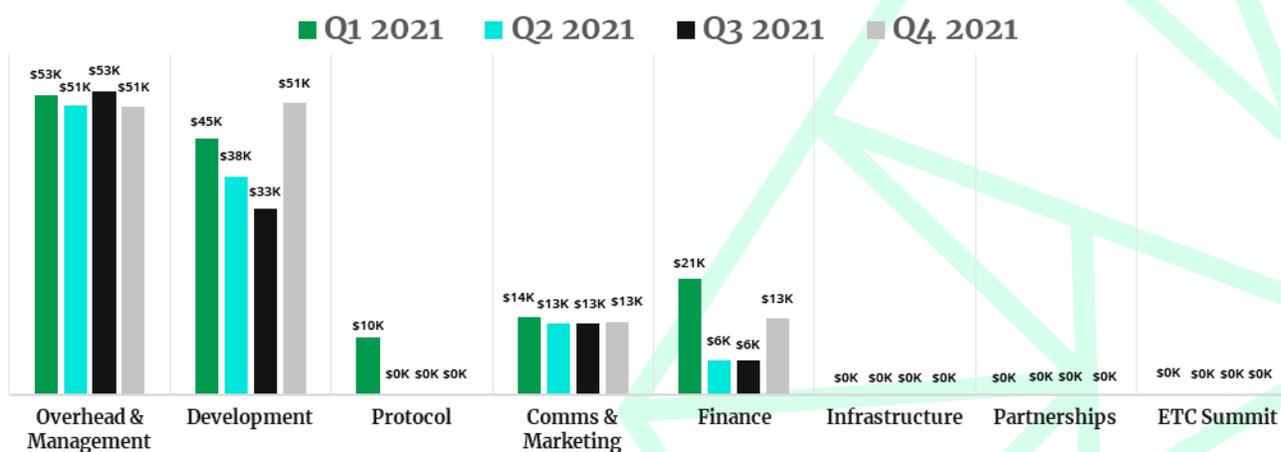
## Non-Cash items

This consists of accounting items that are not considered cash-costs, such as gain/loss on foreign exchange, gain/loss on sale of cryptocurrencies, and direct write-off of prior year receivables.

## 2021 Expenditures

### Expenditures in \$US

	Q1 2021	Q2 2021	Q3 2021	Q4 2021	F2021
Overhead & Management	\$52,769	\$50,975	\$53,436	\$50,704	\$207,884
Development	\$45,170	\$38,488	\$32,806	\$51,392	\$167,856
Protocol	\$10,000	\$0	\$0	\$0	\$10,000
Comms & Marketing	\$13,569	\$12,500	\$12,500	\$12,860	\$51,429
Finance	\$20,511	\$6,000	\$6,000	\$13,397	\$45,908
Infrastructure	\$0	\$0	\$0	\$0	\$0
Partnerships	\$0	\$0	\$0	\$0	\$0
ETC Summit	\$0	\$0	\$0	\$0	\$0
<b>Total Expenditures</b>	<b>\$142,018</b>	<b>\$107,963</b>	<b>\$104,742</b>	<b>\$128,353</b>	<b>\$483,077</b>
<b>Non-cash Items</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Operating Expenses</b>	<b>\$142,018</b>	<b>\$107,963</b>	<b>\$104,742</b>	<b>\$128,353</b>	<b>\$483,077</b>



Each fiscal quarter in 2021, was relatively consistent and most variances relate to timing of specific projects or regulatory filing requirements. Q1 2020, had the highest costs due to tax filing payments.

Overall, 2021 expenditures reflected a pared down program, similar to 2020. With the addition of the Core Dev team, it is anticipated that 2022, will have higher expenditures and a more robust program, especially with travel resuming.

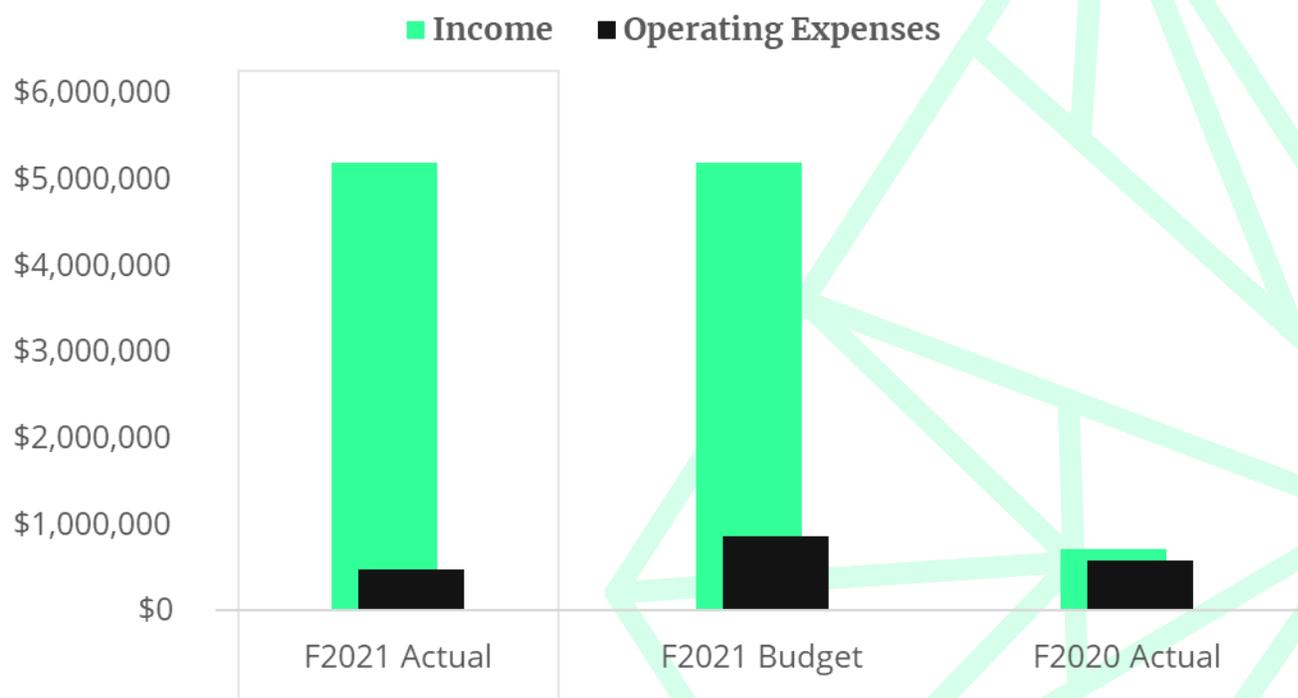
## Ecosystem & Technical Projects Break-Down

In 2021, the only technical project was adding Keccak 256 mining support for the Besu client, for \$10k.

## Net Income/(Loss)

### Net Income/(Loss) in \$US

	F2021 Actual	F2021 Budget	F2020 Actual
Income	\$5,191,092	\$5,191,092	\$713,431
Operating Expenses	\$483,077	\$864,585	\$589,000
Net (Loss)/Income	\$4,708,015	\$(132,580)	\$124,431
Non-cash items	\$0	\$0	\$28,686
<b>Adjusted Net Income</b>	<b>\$4,708,015</b>	<b>\$(132,580)</b>	<b>\$153,117</b>



Note that the net income/(loss) and Adjusted Net Income/(Loss) does not include the unrealized (loss)/gain on the re-evaluation of ETC at market rates. See description of Non-Cash items above.

## Income

The ETC Cooperative earns income from the arrangement with Grayscale LLC, as well as donations and sponsorships. Under the current arrangement, 1/3 of fees collected by Grayscale, related to their Grayscale Ethereum Classic Trust, are contributed to the Cooperative. Sponsorships related to the ETC Summit, are either included in income, if they are general purpose, or offset to expenses, if they are for a specific event/activity. In 2021, there was no ETC Summit and thus no sponsorship income.

The ETC Cooperative received an exceptional amount of funding from Grayscale during April to December 2021, as ETC prices hit an all-time high during May.

Nearly \$4.9M USD of revenue was received or has been accrued by the ETC Coop from April to December leaving over \$4.7M USD of assets on our balance sheet at the end of the year (cash balance and receivables). Historically, those assets have usually varied between \$300K and \$600K.

This leaves the Coop in a very strong financial position heading into 2022. However, the current agreement with Grayscale will end in April 2022. It appears unlikely that this will be extended and even though the Coop now has a significant cash balance, it will not sustain us for the long term.

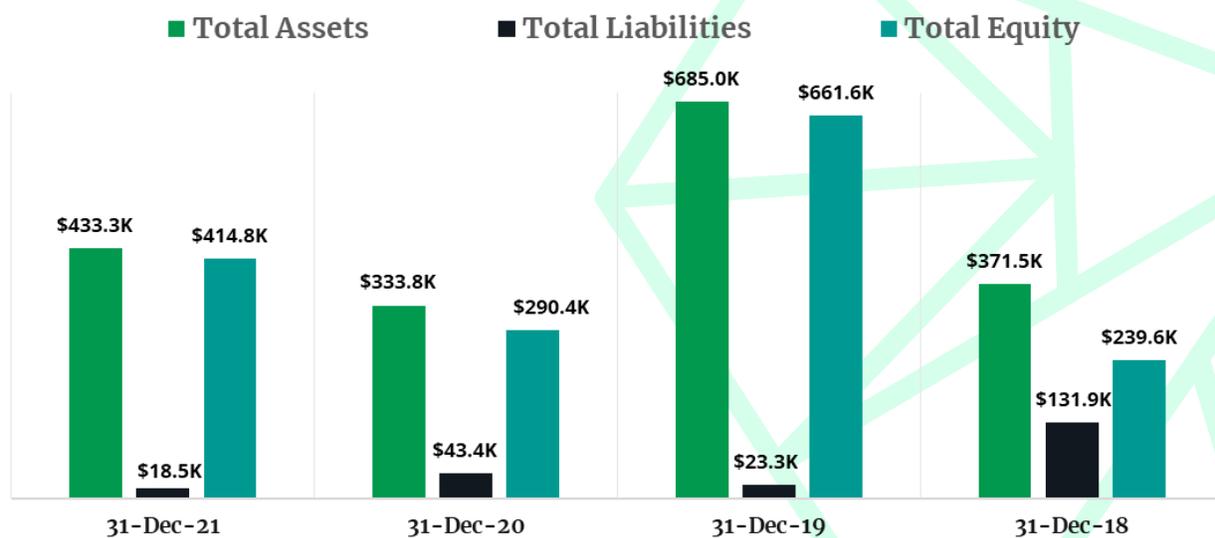
## Unrealized (Loss)/Gain on ETC

These figures represent the difference between the book value of ETC, included in the financial information and the market value as of a certain date. The book value is the value or exchange rate at which the ETC was purchased and recorded to the financial records, in US dollars. This value will remain on the books, until the ETC is sold. However, it over or understates the actual value of the ETC held, at a certain point in time and thus the liquidity of the ETC Cooperative. To present a more accurate picture, the unrealized gain or loss is presented, which shows what would have been reported, if the ETC held, had been sold. Each period, this will change to reflect the current rate at the end of the reporting period (i.e. September 30, 2021 for Q3 2021).

## Financial Position

### Financial Positions in \$US

	31-Dec-21	31-Dec-20	31-Dec-19	31-Dec-18
<b>Assets</b>				
Cash & Cash Equivalents	\$303,313	\$146,318	\$530,268	\$0
ETC (at book value) <sup>1</sup>	\$78,115	\$154,363	\$154,363	\$0
Accounts Receivable	\$0	\$12,057	\$7,057	\$0
Due from Grayscale	\$51,914	\$18,808	\$(6,729)	\$371,505
Prepaid Expenses & Deposits	\$0	\$2,250	\$0	\$0
<b>Total Assets</b>	<b>\$433,341</b>	<b>\$333,796</b>	<b>\$684,960</b>	<b>\$371,505</b>
<b>Liabilities</b>				
Accounts Payable & Accrued Liabilities	\$18,507	\$44,393	\$20,305	\$0
Due to Grayscale	\$0	\$(1,000)	\$3,022	\$131,864
<b>Total Liabilities</b>	<b>\$18,507</b>	<b>\$43,393</b>	<b>\$23,328</b>	<b>\$131,864</b>
<b>Equity</b>				
Retained Earnings	\$290,403	\$661,632	\$239,640	\$0
Net Income/(Loss) for the year	\$124,431	\$(371,229)	\$421,992	\$239,640
<b>Total Equity</b>	<b>\$414,834</b>	<b>\$290,403</b>	<b>\$661,632</b>	<b>\$239,640</b>
<b>Total Liabilities &amp; Equity</b>	<b>\$433,341</b>	<b>\$333,796</b>	<b>\$684,960</b>	<b>\$371,505</b>
ETC at Market Value <sup>1</sup>	\$46,284	\$72,540	\$81,430	\$0
Liquid assets <sup>2</sup>	349,597	218,858	611,698	0



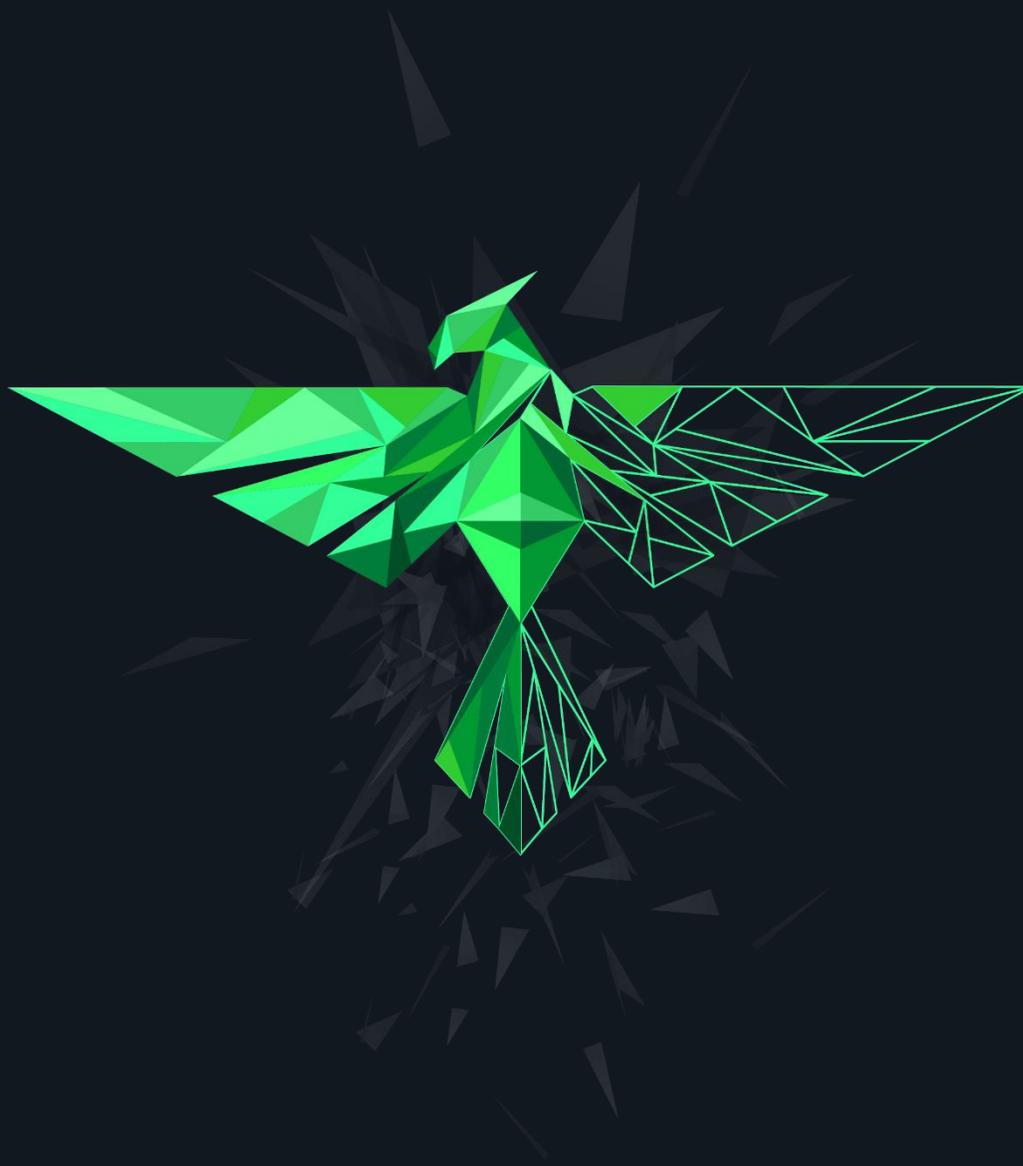
## *Assets*

There has been a significant increase in cash, in 2021 as the Cooperative continued with 2021 activities, due to increased income received from Grayscale.

## *Liabilities & Equity*

Accounts payable and accrued liabilities were predominantly composed of accrued tax expenses and recurring monthly development costs.

Due to higher income levels, the ETC Cooperative was in an income position for 2021.



ETC  
Cooperative