Additional insights from web3 reward emission research

We are currently undertaking a large-scale research effort to create better frameworks for token mechanics especially for Web3 protocols in the hardware resource provisioning sector.

We have recently published part one, where we have compared emission schedules of various Web3 networks, including of course NYM. You can find the report [here](#).

We wanted to share some additional data with the NYM community though, that is not in the report.

First off, we have classified NYM's token rewards to be in the category of KPI-driven and decaying: The maximum token rewards for mix-nodes is set to 2% of the rewards pool per epoch and hence decaying over time. The actual amount emitted depends on network conditions though: the number of active nodes and their various factors impacting the rewards, e.g. performance and staking amounts.

Within that category there are currently also the following projects we analyzed:
- Akash
- Filecoin

In comparison to the other projects in this category, NYM's reward emissions are on the lower end of the spectrum, even when we consider the maximum rewards per epoch of 2% of the rewards pool (orange dotted line in below chart).
Below chart shows the average (blue line) and the interquartile range (blue shaded) of the monthly token rewards of all Web3 infrastructure networks together with the projects of the fixed and decaying emissions category highlighted:
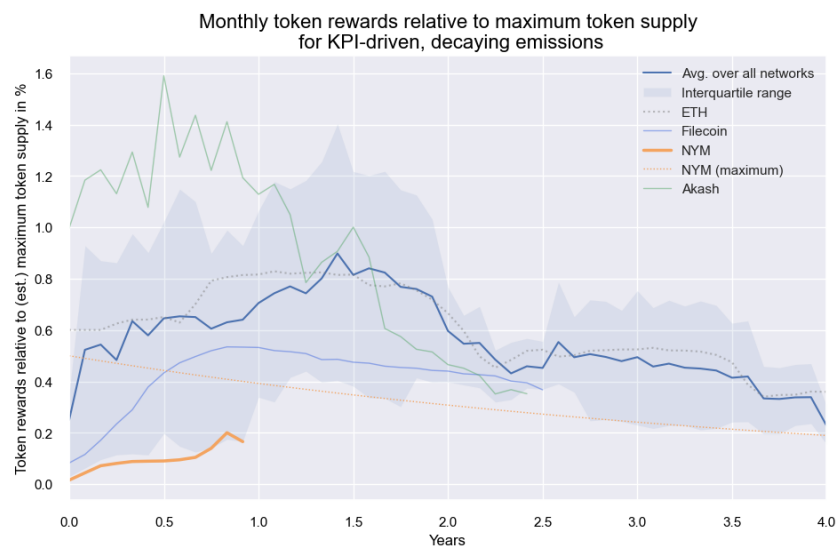
Those token rewards converted into dollar-values are also the lowest of the category spectrum, ranging around 400k/month lately. An additional factor here are the tailwinds to prices of the 2021 bull market that did not affect NYM prices, but surely impacted both Akash and Filecoin (and the majority of the other Web3 infrastructure networks aggregated in the gray area):

Monthly token rewards in $ for KPI-driven, decaying emissions
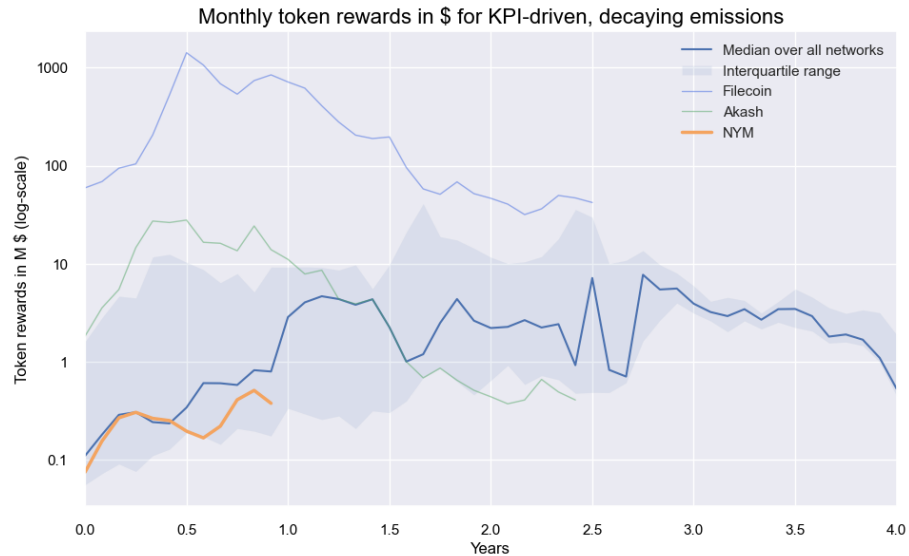
For NYM it might actually be more relevant to compare it to the networks providing similar services versus comparing it to projects with similar token emissions. So here we go:

Monthly token rewards relative to maximum token supply for mixnets

Monthly token rewards in $ for mixnets
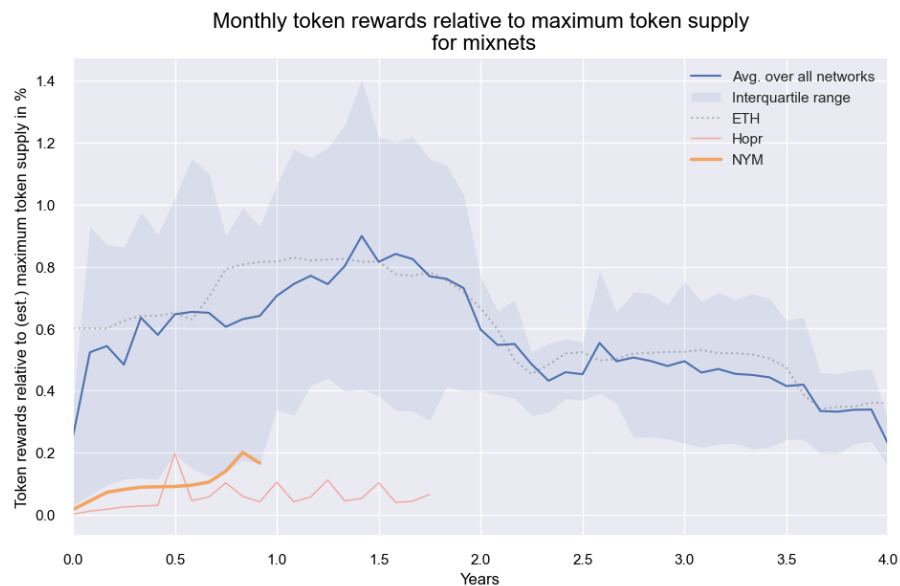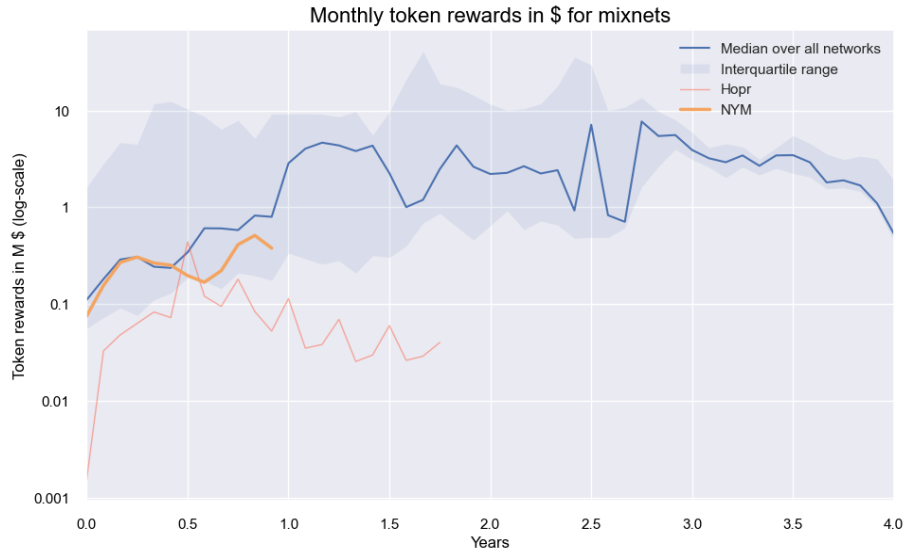
One major difference of the above charts is that we weren't able to separate the rewards for delegates on NYM, whilst delegation on Hopr isn't live and hence not included in the shown rewards. Otherwise, there are quite some similarities: Hopr also allocates 25% of their total supply for mixnode-rewards, the schedule-category is also KPI-driven, but with constant emissions. Last, Hopr's monthly reward emissions paid so far are also lower than the planned (maximum) rewards of up to ~4.1% of the rewards pool per month (~1% of total supply, limited to a time of two years).

More information is available in this repo that also contains the paper with further details on the published report and caveats. And there is of course several caveats: Besides the handling of delegation rewards, we needed to extrapolate monthly NYM rewards before the API data was available (see the links/sources doc in the repo) - obviously happy if someone in the community has the exact data. Last: below chart with rewards per-node has all nodes for NYM (incl. not active ones) whilst for Hopr we estimated the number of nodes for the first months as we couldn't get them from the dashboard or the queries - with this in mind, the rewards per node on a dollar basis seem to be another similarity between NYM and Hopr:

Monthly token rewards per node in $ for mixnets
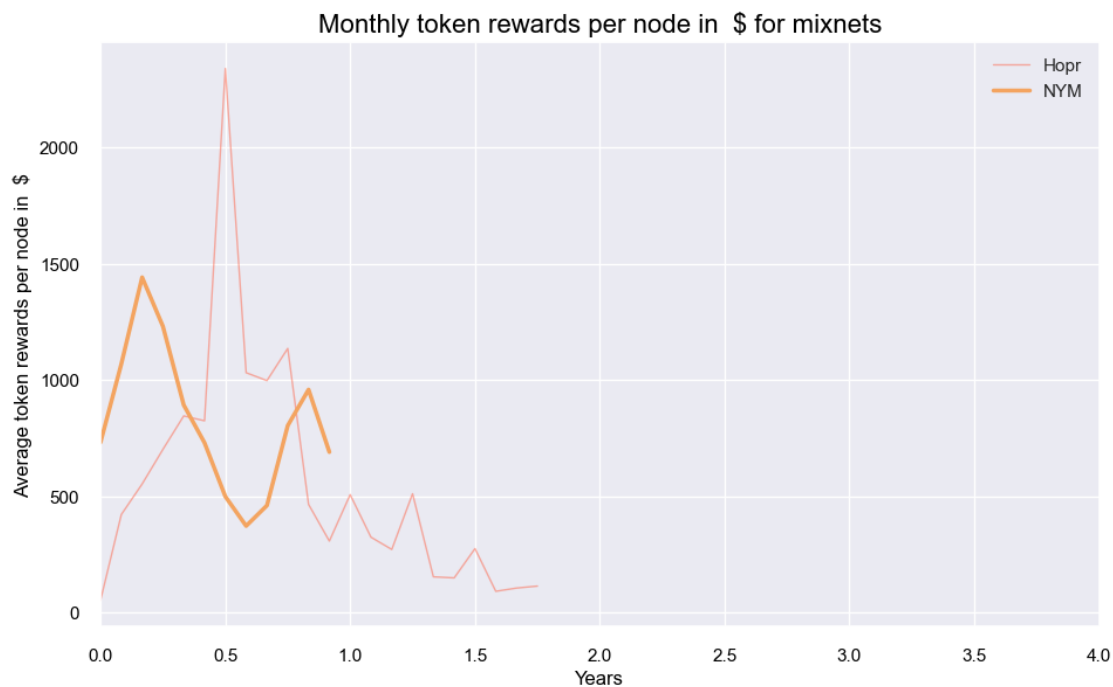
We hope this information yields some insightful information for the NYM community and are open to your feedback. What would be some additional data you would want to see / topics to dive into?