AAU
AmpleForthGold
Synthetic Gold forged using Ampleforth technology.

The Gold Paper

AmpleForthGold: A new synthetic gold commodity.

Introduction

We believe in the novel Ampleforth stable coin. However, it shall be noted that a valued physical commodity (not a fiat currency) should be the foundation of any stable coin. Therefore we believe Gold best suits this purpose. In the light of this simple idea the AmpleForth.Gold project has been formed.

Why Gold?

Unlike fiat currencies that come and go, gold has been around throughout written history as a means of exchange and a store of value. While its prices can fluctuate, precious metals like gold will always maintain their value.

> *"Our view is that gold is only appropriate if you have a very strong view that the U.S. dollar is going to be debased. We don't have that view. We think the dollar maintains its status as the reserve currency. The dollar can cheapen a little bit because it's moderately overvalued but that doesn't mean that it's going to be debased, that we are going to have huge inflation and that gold is a good substitute."*
>
> *- CIO Goldman Sachs, 6th August 2020.*

We disagree with Goldman Sachs view. It is apparent that due to abuse of the printing press at the US federal reserve we are indeed on the cusp of substantial US$ debasement event and the associated inflation. The core idea behind AmpleForthGold is to provide a safe haven for the stable and valued commodity which is Gold.

The AAU Ticker Symbol

The AmpleForth.Gold project shall use **AAU** as it's ticker symbol on exchanges such as UniSwap. **AAU** is synonymous with AmpleForth.Gold

Project Goals

1. Support the original Ampleforth project.

   The **AAU** project can only succeed if the original Ampleforth project succeeds. It is in this project's best interest to support and help the original Ampleforth project to succeed and grow. Their success is our success.

2. Provide a new implementation of the original Ampleforth project that uses gold oracles.

The original Ampleforth project uses US$ oracles to maintain the price of the Ampleforth Token at approximately US$1. We shall replace this oracle to use Gold oracles based on the GOLD exchange rate (the price of one ounce of Gold at rebasement time). By using this we have a token that is priced in gold but is not linked to the US$ or any other (unstable) fiat currency.

3. Otherwise use the process and procedures of the original Ampleforth project.
   * Where possible re-use the original Ampleforth implementation.
   * Only make changes that are consistent with the project goals.
   * Keep all changes to a minimum.
   * Continually re-merge changes from the original Ampleforth project GitHub back into this project's GitHub.
   * Functionally re-use the *Ampleforth Geyser* to distribute AmpleForth.Gold tokens. The Geyser shall be renamed to **'Midas'**.
4. Register the **AAU** token initially with UniSwap, Coinbase Wallet and Metamask.

5. Eventually move to a contract that is not under human control. The primary issue stopping this is the rebase functionality. Long term the project would like to use on chain DEXs (such as UniSwap) to provide pricing information for rebase events.

Initial Coin Distribution

We do not believe in pre-mining, distributing coins to developers, founders or investors. We would like to distribute **AAU** to the masses as fairly as possible. To accomplish this the following distribution strategy shall be followed:

1. The founders shall provide $10,000.00 USD of ETH to this project to provide initial market liquidity. This will be matched with 10% of the total supply of **AAU** and placed in Uniswap as initial liquidity.
2. At a later date the initial quantity of **AAU** tokens shall be rebased to match the Gold price on that day. From that day forward **AAU** shall be rebased (See rebase functionality below).
3. The *Ampleforth Geyser* shall be re-used and renamed **Midas**. **Midas** shall be gifted 90% of tokens once liquidity has been provided. **Midas** shall distribute those tokens and provide enhanced market liquidity. **Midas** shall distribute based on the percentage of the pool that each depositor provides. The following rules shall apply:
   * **Midas** shall distribute 0.5% of its total tokens each day. This implies that the frequency of distribution would occur as follows:
     * Approximately 3.4% of tokens would be distributed in the first week.
     * Approximately 14% of tokens would be distributed in the first month.
     * Approximately 58% of tokens would be distributed in the first 6 months.
     * Approximately 83% of tokens would be distributed in the first year.

- Approximately 96% of tokens would be distributed within the first 2 years.
- Approximately 98% of tokens would be distributed within the first 3 years.
- **Midas** shall distribute **AAU** to all depositors equally. However, to encourage holding and provide liquidity, some deposit holders shall be more equal than others. Specifically:
    - Accounts held for more than 7 days shall have a 10% bonus.
    - Accounts held for more than 28 days shall have a 20% bonus.
    - Accounts held for more than 168 days shall have a 30% bonus.
    - Accounts held for more than 365 days shall have a 50% bonus.
4. Once **Midas** has distributed more than 10% of the **AAU** tokens, and the available liquidity in **UniSwap** exceeds 15% of the total **AAU** tokens, the founders shall remove their 10% of liquidity in a staggered process: They shall remove the liquidity in 5 equal transactions spread equally over 5 months. The founders shall gift all **AAU** tokens from this event to **Midas** for re-distribution. The founders shall keep their initial ETH deposit.

Rebase Functionality

The cost of Gas

The price of ETH (and the price of gas) has recently increased significantly. Each rebase operation requires gas that is a weekly fixed cost on the project. For this reason, the amount of gas used in a rebase operation needs to be minimised via either simplifying the contract in this area and/or removing (as much as possible) of the rebase calculations off-chain.

Timing

Fixed rebase timing (rebasing at the same time every day) allows traders to trade around the rebase event to the detriment of the wider community. For this reason, rebase operations shall be performed at random times. There shall be 5 rebase events per week spread randomly over the week.

Initial Rebase

The initial rebase shall adjust the price of 1 AmpleForthGold token to the current price of one ounce of gold. It shall be rather brutal.

Subsequent Rebase operations

Rebase events will not occur if the target price is within 5% of the current price. Rebase events shall only move the price by (at most) 5%.

On-Chain minimalists, lowering attack vectors

Each rebase requires a human (or a machine controlled by a human) to provide information (gold price etc) to the smart contract. If the price feed comes from a human, then anything that is derived from that also comes from that human. For this reason the entry points for rebases has been minimised to a single raw entry point (the function `rebase()` in `UFragments.sol`) with the bulk of the processing done off chain.

The original Ampleforth project has this exact interface (they remain identical), but also has a significantly larger attack vector by the use of the contracts: `UFragmentsPolicy.sol`, `Orgestrator.sol` and various other price Oracle contracts (some of which source has not been provided).

Code Reviews and Audits

The Solidity contracts that make up AmpleForthGold have **_not_** been independently reviewed. The contracts are open source and are available for review on the [project GitHub page](#). The original Ampleforth project performed an independent review of their projects Solidity contracts. The AmpleForthGold Solidity contracts have only minor changes to them from the original Ampleforth project - and those changes can be easily reviewed on GitHub or in [etherscan.io](#).

The founders

The founders shall not be gifted any equity stake in this project (no pre-mine) as all **AAU** tokens shall (eventually) be distributed by **Midas**. The founders hope that (just like Bitcoin) the first users and first supporters of this project get the largest opportunity to profit from it.

The founders have been involved in crypto since 2011. They were early Bitcoin miners, Bitcoin core devs and Bitcoin investors. They did lose money on MtGox & Bitfinix hacks. However, their crypto investments have made them wealthy. The founders supported 'big blocks' on Bitcoin, and after the failure of segwit2x left Bitcoin behind and never looked back. They now have substantial ETH ecosystem investments. The founders understand that successful ERC20 projects ultimately lead to a higher ETH price.

The founders have decided to remain anonymous for various legal, geographical, personal, and political reasons.

The founders may purchase **AAU** and may stake it in **Midas**, their rights shall be no different from any other stakeholder.

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Warnings

AmpleForthGold is going through an experimental development phase. It is an experimental new currency/token that is in active development. Each improvement makes AmpleForthGold more appealing, but it also reveals new challenges owing to its growing adoption & use. There is no guarantee that this experiment will work. As with any investment, one has to be aware that when investing in AmpleForthGold during this developmental stage you might encounter increased fees, slower confirmations, or even more severe issues including partial or complete loss of funds.