

DHT Staking Proposal

The Status Quo of Staking DHT

The current dHEDGE staking system rewards DHT holders that choose to lock up their DHT in return for vDHT.

These stakers then benefit in four ways:

- being rewarded with inflationary incentives,
- Control and exposure to the dHEDGE Protocol Treasury and
- the ability to vote on DAO proposals and steer the direction of dHEDGE.
- the ability to earn increased performance mining rewards.

Problems

- Token emissions are not tightly correlated enough with prudent investor behaviour (i.e. investing in well performing pools) and protocol engagement (buying DHT, participating in governance, investing in dUSD/wide range of pools)
- Staking only available on Ethereum Mainnet

Proposed Future State

The main purpose of DHT is to provide a boost to positive investing behaviour.

Via staking DHT together with a pool token, a staker is able to amplify the returns they're achieving through investment activity.

The amplification is achieved by a combination of three factors:

- The amount of DHT staked
- The amount of time staked (**Duration Bonus**), and
- The performance of the invested dHEDGE pool (**Performance Bonus**)

As dHEDGE protocol revenue is a direct function of pool fees, the design of this staking mechanism is directly aligned to reward successful investing behaviour.

Staking rewards therefore are a direct product of:

$$\textit{Staking Rewards} = \sum_i^n (S_i \times \$DHPT_i \times p_i \times t_i \times E)$$

Where:

$vDHT$ = Staked DHT

S = Staking Ratio of vDHT:DHPT

p = Performance Bonus

t = Duration Bonus

E = Emissions Rate

n = the total amount of different DHPT tokens

The **Staking Ratio** is a linear scale from 0 to 1 which is the ratio of:

$$\frac{vDHT \times 6}{DHPT}$$

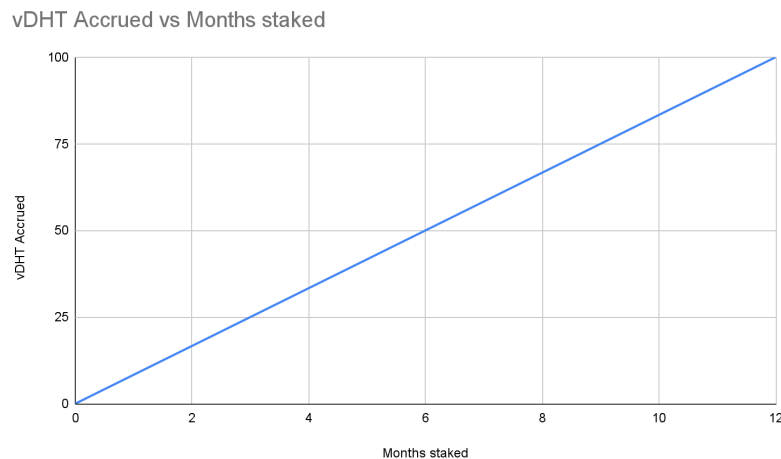
To optimise staking returns, a staker must supply a minimum of 6x vDHT to the dollar value of staked pool tokens. In the above equation, S needs to be greater than or equal to 6 for max rewards.

In the case where this ratio decreases, accrued rewards will be reduced by the same ratio.

Staking DHT

Staking DHT provides the staker with an incrementing amount of vDHT tokens over time. vDHT accrues linearly over a 12 month period until a maximum amount of vDHT is accrued, at a total of 1:1 to DHT initially staked.

In the below example, 100 DHT is staked at month 0. The returned vDHT accrues to 100 vDHT after 12 months.



The primary utility of vDHT is for voting as part of dHEDGE governance. It also factors into staking rewards, as it is then required to be paired with a staked dHEDGE Pool token to commence accruing rewards.

1. Stake DHT -> get vDHT.

DHT Staking rewards are derived from a combination of both vDHT and staked dHEDGE Pool Tokens (DHPT).

DHPT pool tokens, for example the Stablecoin Yield pool, can be staked against the vDHT to a maximum ratio of **\$1 in Pool token value:6 staked DHT tokens**

Duration Bonus

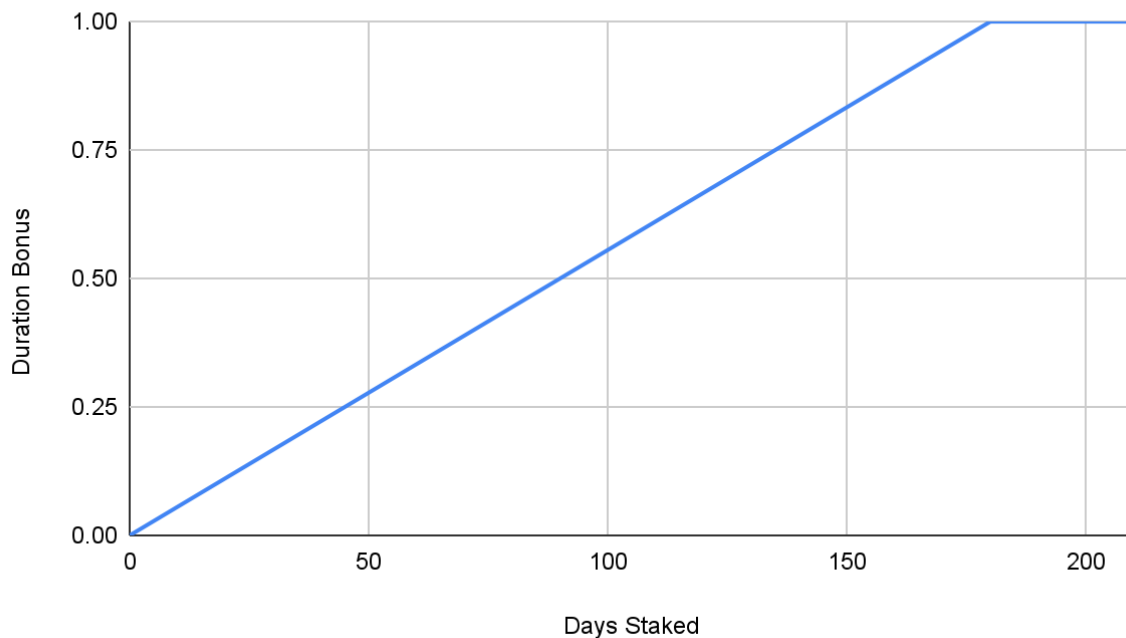
Once invested in one or more dHEDGE pools, the associated pool tokens (DHPT) can be then staked on the platform to qualify for staking rewards.

Once some DHPT is staked, a duration counter commences. As this period increases, so does the Duration Bonus, growing according to a linear relationship below.

The duration bonus rapidly increases linearly, to a max at the 6 month mark.

2. Extended staking -> increased Duration Bonus

Duration Bonus (T)



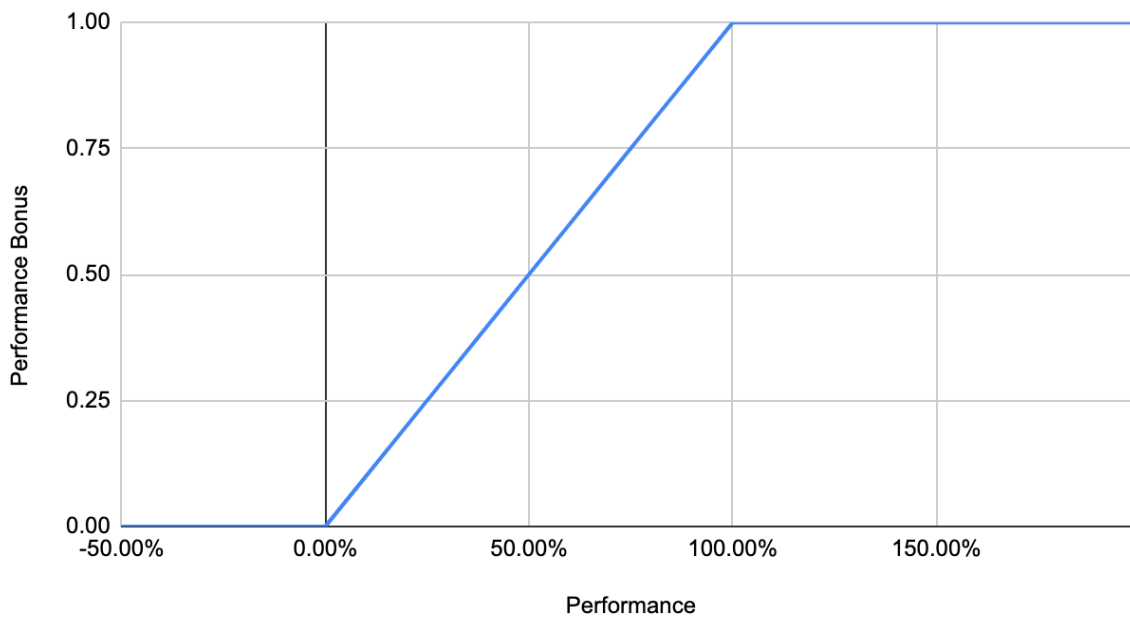
Performance Bonus

In addition to being rewarded for extended periods of staking, DHT rewards are also boosted in relation to dHEDGE Pool performance.

By being invested in pools generating positive investment performance, DHT staking rewards are boosted to the staker along the Performance Bonus line below.

3. *Positive Pool Performance -> increased Performance Bonus*

Performance Bonus (P)



Pools generating a loss receive a 0 Performance Bonus, which in the context of the overall staking rewards formula will generate 0 staking rewards.

Maximum Performance Bonus caps out after the staked pool token performance passes 100%.

Note: the Performance Bonus is a dynamic index which dictates staking returns at the point of claiming, and is not a cumulative function typical of other traditional DeFi staking programs.

Example

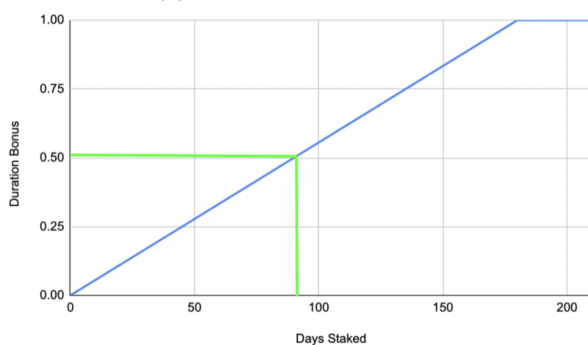
Nancy stakes 1000 DHT and commences accruing vDHT. Nancy is also invested in pools Conservative Fund, Risky Fund and High Yield Fund.

Nancy stakes \$200 of the Conservative Fund pool tokens.

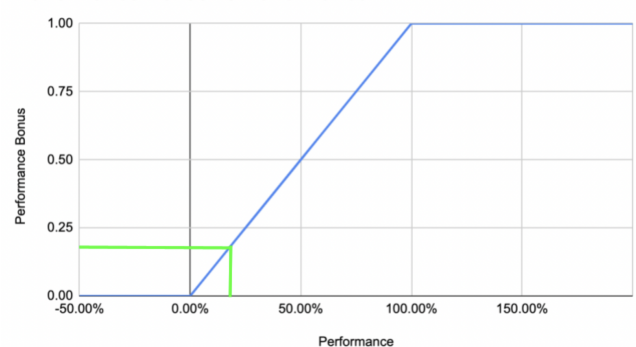
After 3 months of being staked, Nancy has accrued 300 vDHT, and the performance of Conservative fund has increased 20%. From the Duration and Performance bonus charts,

- 3 months staking equates to a Duration Bonus of 0.5,
- 20% pool performance increase equates to a Performance Bonus of 0.2

Duration Bonus (T)



Performance Bonus vs Performance



Therefore:

$$\text{Staking Rewards} = \sum_i^n (S_i \times \$DHPT_i \times p_i \times t_i \times E)$$

$$\text{Staking Rewards} = 1 \times 200 \times 0.2 \times 0.5 \times 6 = 120 \text{ DHT}$$

Should Nancy choose to not claim, and instead hold her staked Pool tokens and re-evaluate 6 months later, she would be also making a decision based on a forecast performance of the Conservative fund.

Let's say 6 months later the Conservative fund is now at 30% pool performance increase from when Nancy initially staked, her staking bonuses would be:

- vDHT has accrued to 900 (after 9 months staking)
- 9 months staking equates to a Duration Bonus of 1.0,
- 30% pool performance increase equates to a Performance Bonus of 0.3

$$\text{Staking Rewards} = 1 \times 200 \times 1 \times 0.3 \times 6 = 360 \text{ DHT}$$