Circulating supply equilibrium for Ethereum under current policy with a constrained burn-rate model

$$S = \begin{cases} \dfrac{c^2 F^2}{b'^2(1-a)^2}, & D \geq \dfrac{c^2 F^2}{b'^2(1-a)^2} \\ \dfrac{cF\sqrt{D}}{b'} + aD, & \text{otherwise} \end{cases}$$

Deposit size (million ETH)

$D$

$S = 40$ million ETH

$S = 20$ million ETH

$S = 80$ million ETH

$2^{19}$ validators

$2^{20}$ validators

49.5 million ETH

7 %
6 %
5 %
4 %
3 %

Staking yield

150M
80M
40M
20M

$S$

Burn rate $b' = B/(S - aD)$, $a = 0.5$

$b'$