

Lots of discussion on Twitter recently regarding PoW vs PoS. People like Jack Dorsey from Twitter arguing that PoW vs PoS is not black vs white, for instance considering solar or places in the world where the price of energy is zero (like deserts or wind tunnels)

Here is one proposal on how PoW can be made as energy efficient as PoS.

1. Energy consumption of chips comes mostly from transistor switches (a transistor is a capacitor, and energy per switch is $C V^2/2$)

where V

is voltage and C

is capacitance.

1. Transistors essentially switch on each clock cycle, so if you need to have crypto algorithms that require fewer clock cycles and larger chip area. In this case, energy use will be small and costs of chip design and production will be large, so energy will be a small percentage of mining costs. In the extreme case, you have a huge chip with a very slow clock and a crypto algorithm requires such a chip to run efficiently.
2. The question is, are there hardware people on this board that could help to design a chip/algorithm like that?