Twitter Thread by Julian

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I often hear the argument: Bitcoin mining is wasting enormous amounts of energy.

Bitcoin mining uses about the same amount of energy as a small country and that is fine!

Time for a thread:

To start, energy consumption in general is not a bad thing. Without it, civilization as we know it would simply not be possible.

If we would monetize your manual labor by putting you on a rowing machine you would have produce approximately $0.30 of value per day.

Energy grids are in nature in efficient. It is impossible to tranport electrical energy over long distances. Because of this approximately 6% of the US energy production is wasted because of losses alone. Just about 3.5X the total energy consumption of the Bitcoin network!

Varying load, seasonal or daily, poses challenges to the grid and the producers. It is for example not always possible or easy to lower supply to match demand.

This brings the need for balancing the network. Without it, the grid will become unstable.

With the increase of renewable energy, the need for load balancing solutions will continue to grow:

Solar energy only creates energy when the sun shines. Wind energy only creates energy when the wind blows.

In general, load balancing solutions are expensive. Without those solutions, excess capacity is often wasted eg: gas flaring.

Producers have to produce at sub optimal levels which hurts their profitability and stability. Excess energy is dumped or even sold at a negative price!

Today, Bitcoin miners for example use those flare gasses to mine bitcoin. Energy that otherwise would simply be wasted.

Another example are hydroelectric dams, where because of their location, sometimes the energy created can simply not be transported far enough to meet demand.

Bitcoin mining is extremely commoditized. This means net profit margins are low and the market is extremely competitive.

Therefore miners will move to the edge of the grid where energy is cheapest and there simply is no other use case, if there was, they would be outcompeted.

On top of that, Bitcoin miners are easily switched on/of if needed and can be moved if the supply/demand balance in the network changes.

Bitcoin mining can play a sustainable role in our future.

It provides an opportunity to monetize excess capacity in situations with varying load and will even help our transition towards a more sustainable future by making those solutions more profitable.

I hope this sheds some light on market dynamics in energy grids.

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