

## SUSTAINABILITY

# The unlikely rehabilitation of crypto as a green force

Putting their energy and emissions excesses behind them, can cryptocurrencies emerge as change agents for net zero, harnessing the potential of blockchain tech and Web3?

Jim McClelland

In its early days, crypto had a bad reputation for its carbon footprint – and rightly so. The energy demands and emissions associated with mining blockchain-based currencies were making the wrong kinds of headlines and earning the wrath of climate campaigners. But this is becoming old news as the technology advances. So says Conor Svensson, founder and CEO of Web3 Labs and author of *The Blockchain Innovator's Handbook*.

"The high power consumption of the bitcoin network, which is 0.47 of global electricity usage, has portrayed cryptocurrencies and blockchain technology negatively in the past," he says. "But bitcoin is in the minority in this respect. All other major crypto networks, including ethereum, have trivial power requirements compared with those of big tech."

The latest generation of blockchains are changing for the better, as illustrated by ethereum's recent network upgrade, which could cut its energy consumption by 99.9%.

Crypto is cleaning up its climate act too. Take philanthropic initiative Giving to Services, for instance. It offers a crypto token and staking platform that's designed to give back to public sector workers. Concerned about its climate impact, it switched to the XRP Ledger, the first major blockchain certified as carbon-neutral. It also signed up to the Crypto Climate Accord, a private sector initiative inspired by the UN's Paris climate agreement.

In a world where environmental, social and governance (ESG) criteria are key, the

newfound ability of crypto to meet the rising expectations of responsible investment, climate finance and green banking can be seen as a sign of a maturing market.

Can cryptocurrencies continue their rehabilitation and become part of the solution to the climate crisis – and even help the UN achieve its sustainable development goals (SDGs) – rather than part of the problem?

The establishment seems to think so, judging by the positive signs from global institutions. The World Economic Forum recently formed a crypto sustainability coalition to investigate the potential of Web3 technologies in tackling climate change. And the World Bank has announced its backing for a carbon credit blockchain registry to attract crypto investors and direct the craze for non-fungible tokens towards projects that help to reduce greenhouse gas emissions and make the markets for carbon offsets more transparent.

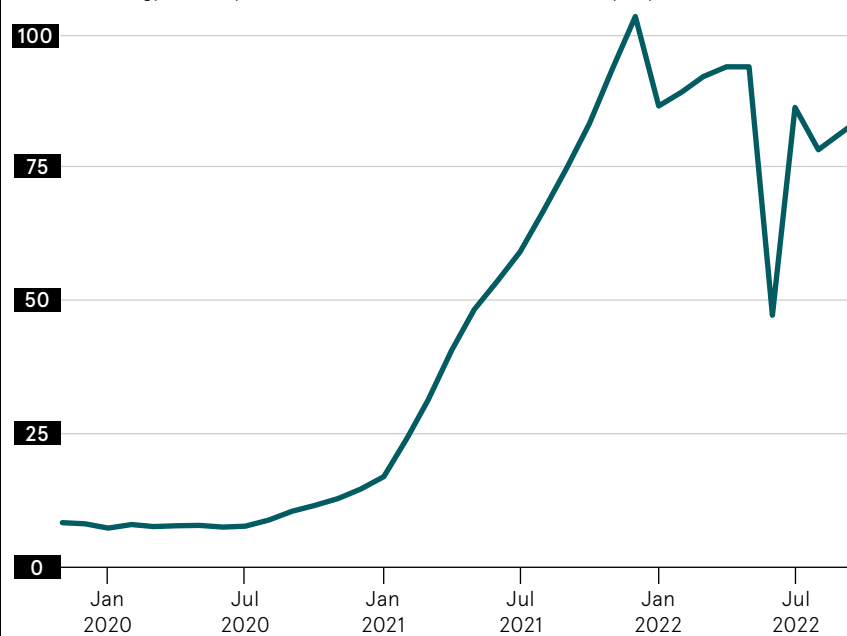
The question is becoming less about whether crypto can help and more about how much. Markets can see the benefits of blockchain to authenticate transactions, identities and sources, so the technology is proving its worth by fuelling the global energy transition in a fully accountable way. That's the view of Benjamin Dunkel, vice-president of ecosystem growth at Alkimi, a decentralised ad exchange.

"The potential of blockchain to aid global decarbonisation is not just theoretical; this is already happening," he argues. "For example, projects such as Energy Web are using decentralised ledgers to help grids



## ETHEREUM MOVED TO A MORE ECO-FRIENDLY PROOF-OF-STAKE MECHANISM FOR VERIFYING TRANSACTIONS IN SEPTEMBER 2022

Ethereum energy consumption worldwide (estimated terawatt-hours per year)



DigiEconomist, 2022

incorporate green assets in a fully transparent and traceable way."

The integration of blockchain technology into the global financial system serves to advance its ESG credentials. One area of potential benefit lies in the carbon market, suggests Alisa DiCaprio, chief economist at R3, a specialist in blockchain software.

"Markets are struggling to handle the demand for voluntary carbon offsets, which is predicted to increase from \$1bn (£890m) in 2021 to \$50bn by 2030," she says. "As a result, offsets are commonly misused, misreported and undervalued."

Blockchains can help here, as DiCaprio explains: "Decentralisation reduces complexity in how carbon credits are registered, traded and managed, leading to an increase in quota utilisation. It also addresses opacity by making markets more reliable and open. This has a positive impact on problems such as fraud, illegal trading, lost quotas and repeated transactions."

Only time will tell whether crypto will support or distort the market, observes Claude Brown, partner at international law firm Reed Smith. "If crypto fractionalises carbon credits and offsets, it has the potential to democratise the voluntary carbon

markets. But it's equally possible for crypto to distort the market by favouring older vintage allowances and creating functionality gaps between the tokens and the credits and offsets that underpin them," he warns.

Fintech clearly has the potential to aid progress towards the UN's SDGs and net zero. It can be a powerful enabler of social change programmes involving regenerative and decentralised finance (DeFi). This is a



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significant play for sustainability, with the global DeFi market valued at \$11.8bn in 2021 and set to grow apace. But Brown points out the need to distinguish between the role played by decentralisation and that of tokenisation. The system and the coin are not one and the same, he stresses.

"Decentralisation has the potential to provide a robust core infrastructure for measuring, verifying and policing progress. Tokens can help, but they are not essential and risk adding a layer of complexity and wizardry that can discourage investment," Brown explains.

Nonetheless, tokens remain prized by consumers. In the DeFi ecosystem, crucial opportunities remain to engage the public in climate action by way of collectively owned structures such as decentralised autonomous organisations (DAOs). These can connect digital rewards to real-world decarbonisation, notes Svensson.

"Web3 technologies such as DAOs could be used to form new communities that are passionate about climate initiatives. One is KlimaDAO, which rewards users with tokens backed by carbon offsets to increase the liquidity of carbon assets," he says.

Taking gamification several steps further – literally – is the lifestyle Web3 application Stepn. This move-to-earn smartphone app rewards users with crypto for walking, jogging or running outside and has made a monthly commitment of \$100,000 towards carbon removal. By using a percentage of its profits to buy carbon removal credits on the Nori marketplace, Stepn expects to fund the extraction of nearly 70,000 tonnes of carbon from the atmosphere a year.

All this is a long way from stories about bitcoin using more energy than Argentina. The narrative, like the tech, is changing. Crypto can become a tool for climate action – and it's not just desirable; it's doable. ●

Commercial feature

## Q&A

# Seamless money movement is key to surviving business-cost crisis

A challenging economic environment requires a rethink on how businesses move money, says **Ian Strafford-Taylor**, CEO and co-founder of Equals Group (LON:EQLS)

**Q** What's going on right now with British businesses?

**A** The cost-of-living crisis is evolving into a cost-of-doing-business crisis. We've got rocketing inflation, spiralling energy costs, falling consumer spending and a recession looming. The situation is unpredictable. We conducted a survey among 1,000 business leaders and one in five said they may have to close due to financial challenges and economic turbulence. Nine out of 10 struggle with cash flow. A similar proportion said they will have to significantly change the way they operate. This is a crucial time for cost controls and managing cash flow effectively.

**Q** How are money issues playing out in the current climate?

**A** Businesses need to focus on what they're good at, rather than get bogged down in managing company money. Right now, money movement is harder than it needs to be. Working capital is vital for firms, a lack of it is why businesses fail. If money is moving more quickly and isn't caught up in archaic payment networks and financial plumbing for days it can be used more effectively. Money needs to move seamlessly whether it's by transfer or card, in any currency and from one platform. As a challenger fintech that's what we're trying to achieve, making it easier for working capital to move to where it's needed the most and for reconciliations to be instant.

**Q** Are there challenges corporations are seeing?

**A** The bane of business is uncertainty – this is also reflected in the currency markets where there's tremendous volatility, which is difficult to navigate if you're importing or exporting. Many SMEs don't realise they can fix exchange rates in advance. Most have never been sold the concept of buying a forward FX contract, yet you can lock in rates and save money with a small deposit, offering hedging and short-term insulation from this issue. In this process, businesses also need just one account, one platform, supporting all currencies making it simpler. This is what we do best.

**Q** How can businesses manage other costs?

**A** Managing expenses in real time is a hot topic. Corporate cards used by executives where CFOs don't know what costs are being racked up until six weeks later when the bill comes in is an issue. Prepaid cards with approved spending limits and alerts sent to decision-makers when more is needed makes sense. Money can then be released through an app. This is the pinnacle of cost control. More of these services need to be made available to all businesses. Right now, we're laser-focused on creating an 'enabling environment' – where the utilisation of money for all enterprises should be frictionless, seamless and easy to use.

**Q** Is an enabling environment easy to achieve?

**A** In essence, no, as we're still sitting on payment networks that are decades old. As a fintech with 17 years' experience we're still trying to disrupt the status quo, not just by providing a great user experience, but by investing in the underlying infrastructure and connectivity – plugging into payment networks directly, while concurrently investing in technology to knit these disparate networks together. The aim is to offer the most efficient and flexible movement of money possible, whatever the payment rails are. Trust is also key, that's why we offer bank-grade connections, are regulated by the FCA and have clearance accounts at the Bank of England. We were also admitted to the SEPA network, ahead of many UK institutional banks.

**Q** What does the future hold?

**A** The advent of crypto and digital currencies, as well as the blockchain technology that underpins them, has served as a wake-up call for the broader payments industry – the current settlement system is not fit for purpose in a digital economy. Moving money should take seconds, not days, and modern technology can enable this. As businesses increasingly transform digitally, they legitimately expect that payments should do the same. We see Equals Money as an enabling force in accelerating the development of that environment.

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