



Dear Investors,

In this newsletter I tackle the topic of ESG and Bitcoin. The particular focus is on Environment and electricity consumption, but also I touch on the Societal and Governance aspects of Bitcoin.

In my view '...Bitcoin is the best ESG investment on the planet...nothing else comes close...'. Read on...

But first - The Cryptomarkets Summary

When I look back on the quarterly price movements for our Fund over the past 5 years it's not unusual for the quarterly price movement to be more than 50% up or down. This quarter was no exception, the unit price ranged from AUD 2.11 - AUD 3.04 and finished the quarter up 12% at AUD 2.38. This level of volatility, which we are now well used to, is attributable to one main thing...the immaturity and tiny size of the crypto markets compared to traditional financial markets. We are in the early stage of an emerging asset class in an emerging industry. I am glad we do not try to catch the highs and lows of the market and trade our way to glory as I feel that by now our capital would have been blown up, instead we are fully intact ready for the next stages.

Speaking of blowing up, this is what has happened with the Reserve Bank of Australia's AUD asset holdings (made up largely of Government Bonds). I am sure many of you have already seen the speech ([see here](#)) by Deputy Governor of the RBA, Michele Bullock where she sets out the Review of the Bond Purchase Program (BPP). In short, the BPP during the period of the pandemic has led to the RBA for the first time in its history becoming technically insolvent. As Ms Bullock points out in her speech...*'if any commercial entity had negative equity, assets would be insufficient to meet liabilities and therefore the company would not be a going concern...'*. Ms Bullock goes on to point out that *'...since (the RBA) has the ability to create money, the Bank can continue to meet its obligations as they become due and so it is not insolvent...'*. All this of course we know already...but still it is quite a thing to see it in writing.

The other interesting thing with the RBA this month was the expected announcement of their pilot Central Bank Digital Currency ([CBDC](#)) project (see my newsletter [here](#) which sets out my views on CBDC's). Blockchain Assets Pty Ltd has applied to be a part of the test group for the eAUD as we want to do our best to shape how the program develops. One thing we did notice is that the pilot eAUD will be using a permissioned instance of Ethereum...it is not a stretch to say that the eAUD (and indeed other CBDC's) may well become a use case for Ethereum.

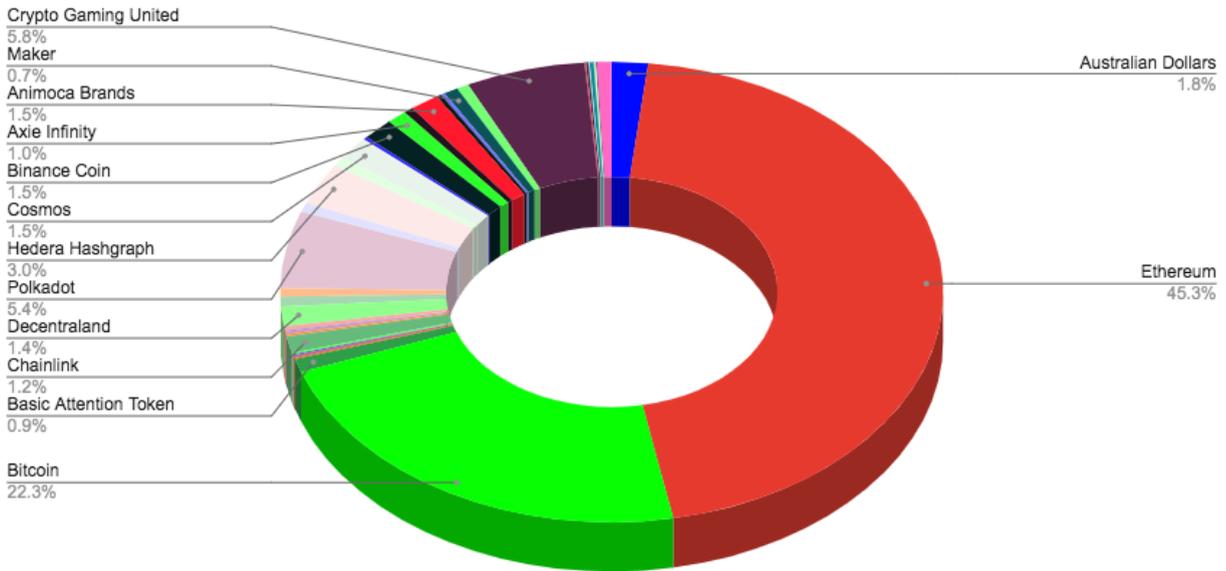
Of course the most positive technical event this quarter was the successful execution of the Merge, the migration of Ethereum from Proof-of-Work protocol to Proof-of-Stake. I have written about this at length elsewhere (see [here](#)) but the main thing from an investors perspective is that it is now possible to earn a yield on our Ether by entering into a staking arrangement. There are obviously risks with this but it is now time to do a fuller risk assessment of staking with the view to staking some of our Ether before the end of the year. More to come on this later.

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Fund Assets and Key Metrics

Metric	30 September 2017	31 December 2017	31 March 2018	30 June 2018
Unit Price	\$0.93	\$2.14	\$1.18	\$1.09
Return Since Inception	-7.00%	114.00%	18.00%	9.00%
Metric	30 September 2018	31 December 2018	31 March 2019	30 June 2019
Unit Price	\$0.7480	\$0.5178	\$0.5507	\$0.9501
Return Since Inception	-25.20%	-48.22%	-44.93%	-4.99%
Metric	30 September 2019	31 December 2019	31 March 2020	30 June 2020
Unit Price	\$0.5270	\$0.3937	\$0.4408	\$0.6034
Return Since Inception	-47.30%	-60.63%	-55.92%	-39.66%
Metric	30 September 2020	31 December 2020	31 March 2021	30 June 2021
Unit Price	\$0.9449	\$1.6575	\$4.5682	\$3.4543
Return Since Inception	-5.51%	65.75%	356.82%	245.43%
Metric	30 September 2021	31 December 2021	31 March 2022	30 June 2022
Unit Price	\$4.9905	\$5.7599	\$5.3393	\$2.1182
Return Since Inception	399.05%	475.99%	433.93%	111.82%
Metric	30 September 2022	31 December 2022	31 March 2023	30 June 2023
Unit Price	\$2.3768			
Return for the Quarter	12.21%			
Return for the past 12 months	-52.37%			
Return Since Inception	137.68%			
Assets Under Management	\$17,184,558.72			

Blockchain Early Opportunities Fund - 30 September 2022



Why is Bitcoin Important for Society

If Bitcoin has no value to society there is no justification for its existence and it would not have come this far. In this section I set out the S case for Bitcoin in the ESG moniker ([see here](#) for ESG background).

Alex Gladstein, Chief Strategy Officer at the [Human Rights Foundation](#) is one of the world's leading educators and advocates for Bitcoin as a freedom technology. His book, '[Check Your Financial Privilege](#)' takes the reader from the hidden costs of the petrodollar system and monetary colonialism to Bitcoin as a Trojan Horse for freedom and the end of Super Imperialism.

But we don't have to look internationally for inspiration on this topic. Here in Perth, thanks to [Ron Manners](#) and the team at the [Mannkal Economic Education Foundation](#), we have tremendous thought leadership on the topic of blockchain and freedom. Published by Mannkal and authored by scholars at the Royal Melbourne Institute of Technology (RMIT) Blockchain Innovation Hub the book '[The New Technologies of Freedom](#)' takes the reader through issues such as the legal aspects of smart contracts, privacy and freedom of speech.

The third book which is important here deals not with technology but with tangible assets such as real estate and land title. I refer to the work of Peruvian economist [Hernando De Soto](#) and his ideas captured in the book titled '[The Mystery of Capital](#)'. In short his idea is that providing communities with good land title systems enables the individuals in those societies to flourish. Of course this concept of private property is something we take for granted in the developed world, but in the developing world there often is no such concept. People are at risk of having the land they have occupied for generations taken away by authoritarian governments and this undermines development of the individual and the state.

These books in particular have helped me appreciate the importance of Bitcoin for the future of freedom. Bitcoin is the world's first digital private property, it is not controlled by any government and no permission is needed to participate in the network. I don't know what could be more important for a society than having freedom. We in the developed world tend to put preservation of freedom at the bottom of our priority list. Advocates for freedom are even sometimes derided as wacky conspiracy theorists...Yet it is individual freedom which gives rise to our civilisation. As Ron Manners states :

'...most of our problems would not have occurred had we been as concerned about preserving liberty as we were about earning a living and paying taxes. Most of us are so busy and preoccupied that we have neglected to preserve the freedom that protects our rights to keep what we have earned...' (The Lonely Libertarian' page 159)

The opposite to freedom money as represented by Bitcoin is controlled fiat currency in the form of CBDC's, for example, China's Digital Yuan project.

China Reveals Digital Yuan with Expiry Date where People are Forced to Spend and not allowed to Save

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China is experimenting with digital money with an expiration date, meaning that citizens will be forced to spend and not save.

The "digital yuan" could usher in an era of total population control as people who aren't allowed to save money will be more dependent on the government.

I could go on about the 'S' benefits of Bitcoin by referring to one of the early narratives about 'banking the unbanked' or

providing identity for the over 1 billion people with no formal identity documents, or even just focus on the sound money aspect of it's monetary policy, but I hope by now readers will have sufficient appreciation of the point I am trying to make and at the very least readers have some further material to refer to if of interest.

Why is Bitcoin (Proof-of-Work) Mining Important for Bitcoin

I have established why many feel that Bitcoin is valuable for society, but energy use just for the sake of it doesn't make any sense, particularly when there is a potential alternative (Proof of Stake). So it's important to understand the case for using energy consumption (Proof of Work) as the security system for the Bitcoin network.

By security I refer to the properties of the system that prevent a nation state or other actor attacking the Bitcoin network with the view to destroying it's operation. Such an attack is referred to as a 51% attack. The consequences of such an attack are : undoing earlier transactions ; and doing a 'double spend' (using the same money twice).

The cost of mounting and sustaining a 51% attack are made up of hardware costs and electricity costs. An attacker needs to

control 51% or more of the hardware and electricity in the network to make a successful attack. This cost would run into many billions of dollars and even then the attack would be short lived because the 'good' miners would simply mine a fork of the attacked chain as they are incentivised to ensure the continuation of the network. The Bitcoin security system of Proof-of-Work has stood the test of time and is now past any point where an attack could be meaningfully successful ([see here](#) a 5min video by Andreus Antonopoulos explaining).

Why is Bitcoin Mining Important for the Environment

In this part of the newsletter I summarise an excellent paper by Arcane Research ([see here](#)). I also refer readers to a May 2022 letter from the [Bitcoin Mining Council](#) to the United States Environmental Protection Agency ([see here](#)).

Energy consumption is not evil, it has powered the development of humanity for many decades. There is a recognition however that the transition from a fossil fuel based energy system to a renewable energy system makes sense and there is evidence that Bitcoin mining can help with this transition in 4 main ways.

1. Strengthen electricity grids.

2. Improve the economics of renewable energy projects.
3. Reduce natural gas flaring.
4. Repurposing waste heat from bitcoin mining.

Strengthening Electricity Grids

Strength in an electricity grid refers to the balance between supply and demand. If there is good equilibrium the grid is strong, if the supply falls away at peak times it is considered a weak grid.

A valid criticism of renewable energy use in grids is the non-controllable nature of renewables in terms of when sources such as sun and wind are available. As the mix of renewable energy sources in the grid increases the strength of the grid weakens as the 'base load' (provided by fossil fuels) is not sufficient in peak periods.

Of course one way to restore equilibrium is to reduce demand, either by increasing prices or by outright limits in energy usage. Both are not desirable and both are limited to the degree they can help the system.

What is needed is a demand side industry that can dial up or down demand (to zero) at the flick of a switch and an industry that does not care what time of the day they use the electricity. This type of industry could free up grid capacity during peak times for those who are not able to be

flexible in their use timing. Bingo! Bitcoin mining.

This [flexible demand response theory](#) is a reality in use by ERCOT, the State of Texas electricity system.

Significantly the ERCOT system has designated crypto miners as 'Controllable Load Resources' which means they can minutely adjust their demands on the grid system at the push of a button. Bitcoin miners can do this without significantly impacting their profitability which indeed can be built around the system. Of course specialist service companies have emerged to provide miners with just such a monitoring system. [See here](#) the company Lancium which has a patented Smart Response system which it sells as a service to Bitcoin miners.

Providing this flexibility on the demand side facilitates the introduction of a higher mix of renewables to a grid without weakening the grid because demand can be switched off at peak time or at times when renewables are not supplying the system.

Improve the Economics of Renewable Energy Projects

Because of the yet unsolved problems of electricity storage and transport, there is

Deep understanding of grids :



*"Bitcoin mining lets us
- find a home for more solar and wind on the grid and
- balance the load instabilities that come with renewables"*

Brad Jones, CEO ERCOT (Texas Grid)

No understanding of grids :



"Bitcoin is pushing electrical grids to the limit and... [holding] back the renewable energy revolution"

Greenpeace USA, recipient of \$5M from Ripple CEO to produce a campaign attacking Bitcoin

significant wasted energy in the renewables sector. The problems of waste and curtailment of energy production at renewable energy projects can lead them to be closed down or not built in the first place.

What is needed is a customer that can use the excess energy in the location it is generated at the time it is generated so that otherwise wasted energy can be sold. Bingo! Bitcoin mining.

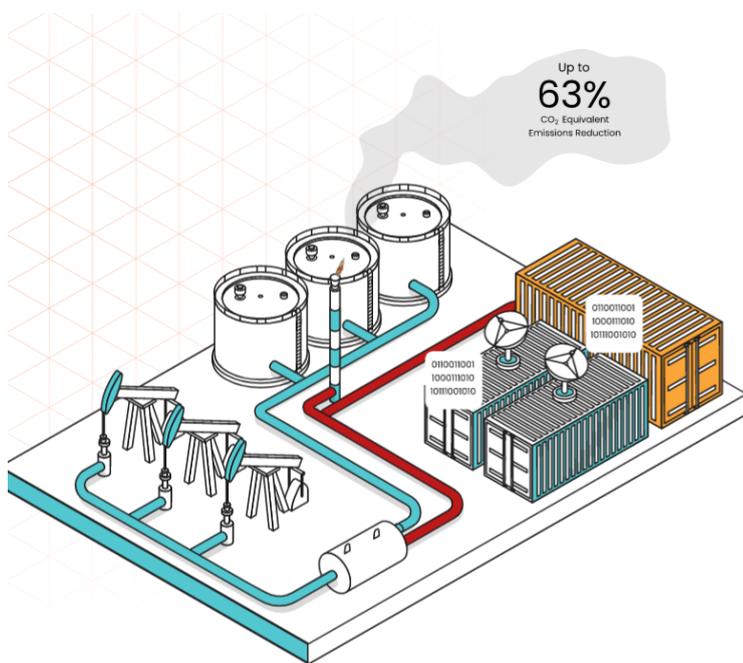
Again this is not just theory. [See here](#) an example where a hydroelectric power station was saved from decommissioning because of their new client, a Bitcoin miner.

The collaboration between the energy intensive Bitcoin mining industry and

power producers is a natural fit as they solve each other's problems. [See here](#) a story about a Wisconsin hydropower station and a Bitcoin miner. It really is happening everywhere at an increasing rate.

Reduce Natural Gas Flaring

Burning gas 24/7/365 at an oil well is incredibly wasteful at so many levels, yet it happens all the time. Estimates are that annual emissions from gas flaring is the equivalent of more than 100 million cars. In comparison electricity used by Bitcoin mining emits only 8% of that of gas flaring.



What we need is an industry that can utilise stranded energy resources, one that can easily move from site to site in a sea container. Bingo Bitcoin mining!

And again here we have a specialist industry developing. The company Crusoe Energy signs gas purchase agreements with oil producers, installs its flare mitigation systems close to the oil wells and uses the energy to mine Bitcoin. [See here.](#)

Repurposing waste heat from Bitcoin mining

Fossil fuels are the most common source of energy for heating homes and this accounts for about three-quarters of the energy mix.

What we need is an industry which produces a lot of heat that can be repurposed for heating our homes. Bingo! Bitcoin mining.

In Canada a company called [Mintgreen](#) is pioneering the repurposing of waste heat from Bitcoin mining. Again a new industry and a new company is leading the way.

Bitcoin Miners are Unique Energy Customers

There is so much opportunity for new industries to develop with the growth of renewable energy. I have given a few examples above. Bitcoin mining as an industry has some unusual characteristics that make it an

enabler for the renewable energy evolution that we need.

1. Bitcoin mining can be interrupted or even stopped at time of peak grid usage or for other reasons.
2. Bitcoin mining is location agnostic as there is no physical product produced that requires transport.
3. Bitcoin mining is modular which means operations can be scaled up or down easily.
4. Bitcoin mining is portable. Mining rigs can be housed in shipping containers and moved anywhere quite easily.

These characteristics give rise to the four possibilities and examples above, but that is just the start. One other example is the tyre recycling company ([see here](#)) that takes whole tyres and breaks them down to several commodities and uses some for energy production, which is used to mine Bitcoin (see interview with the founder [here](#)).

What about the 'G' aspects of Bitcoin

The specific Corporate Governance aspects of ESG are obviously less relevant to an assessment of Bitcoin's governance. But Governance is nevertheless a very important consideration when considering a crypto project.

In the crypto world the nirvana is to achieve the most decentralised form of governance possible. Bitcoin has done a good job of this and is arguably the most decentralised of all crypto projects.

At a high level, it is very clear that the more decentralised a governance structure is the better it is for humanity. Take for example the evolution from Pharaohs, to Emperors, to Kings, to Presidents, to Prime Ministers. With each stepped reduction in centralised control humans have flourished. It is possible to have order and trust without centralised control and this is another thing the Bitcoin experiment has proved.

We do not know who founded Bitcoin, there is no CEO or marketing department or office premises or indeed any legal entity or structure. It is an incredible money network which today, at 13 years of age, is worth just USD 350 billion.

There are of course some governance practices around the code and there is some centralisation around the mining pools and equipment manufacturing, but nothing like we would expect to see if a centralised corporation had tried to create Bitcoin.

Governance models are evolving generally and decentralised models like Bitcoin the DAO's, Ethereum and Hedera are probably

amongst the most significant innovations we have seen for many decades.

I do not see how Bitcoin's governance could not be rated anything other than very highly.

End Thoughts

My deliberately provocative statement at the top of this newsletter is a push back to much of main street media who constantly and ignorantly attack Bitcoin's environmental footprint.

I am not a fan of the ESG investment thesis in general. For me the ESG narrative is a marketing tactic for fund managers and a virtual signalling opportunity for big corporates who simply hive off the less ESG friendly (but perhaps more profitable) parts of their business so the executives can achieve the ESG aspects of their KPI driven bonuses.

This said, if we are going to look at ESG there needs to be some honesty and integrity. Bitcoin mining is one of the most unfairly maligned industries on earth. It's two main ideas : that a global sound money system is possible; and that the consumption of energy is not morally reprehensible are anathema to globalist technocrats who seek to politicise energy consumption and control demand by regulation and market manipulation. I feel that Bitcoin mining could be a positive

enabler for the move to renewable energy, but not all Bitcoin miners today would pass an ESG assessment, like all things there are nuances and some Bitcoin miners are environmentally horrible, Bitcoin miners need to be assessed on a case by case basis rather than writing off a whole industry (but this is another whole discussion).

It is not for nothing that [Michael Saylor](#) chose the domain [hope.com](#) as his Bitcoin information and resources site. By considering the Environment, Social and Governance aspects of Bitcoin it can be seen why many people feel that it holds enormous hope for the betterment of humanity.

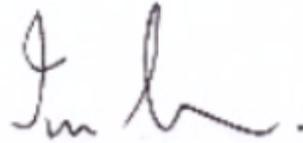
Our Fund [hodles](#) 127 bitcoin's representing circa 22% of the Fund's assets. This is our 'blue chip' holding and while I am very firm on our Ethereum thesis, at the end of the day Bitcoin is past the [Lindy effect](#) and as an asset it acts as a foundation for our portfolio.

I do not buy into the narrative that Proof-of-Stake has a better environmental outcome than Proof-of-Work. It is possible the Bitcoin ends up being the technology we needed as a catalyst to incentivise the transition to renewable energy. It is lazy pseudo-intellectualism to choose Ether over Bitcoin as an investment solely because of environmental reasons. We choose to allocate higher to Ether because

we believe it has more utility value and because of the ultra-sound-money thesis as set out in earlier newsletters. But this does not mean we are not bullish on the long term outlook for Bitcoin. In a crypto portfolio, owning Bitcoin is a bit like owning Gold and owning Ether is a bit like owning a part of the whole economy.

As always, please do not hesitate to contact me on 04 5090 0151 or at ian@bca.fund if you have any questions.

Best Regards



Ian Love
Founder and CEO

To the extent that any of the information which we have supplied to you may be deemed to be "general advice" within the meaning of the Corporations Act, we draw your attention to:- (a) in preparing, supplying or conveying such advice, we did not take into account your investment objectives, financial situation or specific needs; and (b) (before acting on the advice) the need to consider, with or without the assistance of an authorised representative, the appropriateness of the advice having regard to your investment objectives, financial situation or specific needs and any relevant Information Memorandum.