Submission to the Australian Senate - Australia as a technology and financial centre.

Andrew Noble

LinkedIn Profile - https://www.linkedin.com/in/futurewa/
12 PM WST 30 June 2021

My submission touches on information theory, energy and opportunities for regional Australia.

Blockchain is a technology that has its own terminologies rooted in information theory and cryptography. Satoshi Nakamoto, the infamous Cyberpunk, noted ideas in this Manifesto https://nakamotoinstitute.org/crypto-anarchist-manifesto/
"*The technology for this revolution--and it surely will be both a social and economic revolution--has existed in theory for the past decade.*

Just as the technology of printing altered and reduced the power of medieval guilds and the social power structure, so too will cryptologic methods fundamentally alter the nature of corporations and of government interference in economic transactions."

Blockchain is an information technology with interesting properties. It's most interesting property is its ability to leverage mathematical cryptographic proofs and human reward motivations that prevent the double-spend problem and create a decentralised information system without a centralised point of failure. Bitcoin makes this happen via an algorithm that survives on the marginal cost of electricity applied to the powering of a proof of work. A work that progresses up 10 levels of difficulty through the discovery of 21 million Bitcoins in some virtual mathematical space. A virtual pyramid for our entry into the 21st Century heralded by a 21 gun salute.

"*Life means storing information to extract energy, and extract energy to store information*."
https://bit.ly/2SAaN9B

"*Information provides a way to quantify the amount of surprise for an event measured in bits. Entropy provides a measure of the average amount of information needed to represent an event drawn from a probability distribution for a random variable*."
https://bit.ly/2TJaCc8

"*Suppressing or ignoring information is impossible without causing disorder, because it is information that forms our reality! Nature simply does not allow us to escape reality. Reality is Real*" http://www.sustenance4all.com/

Societies that have greater freedom of information and that are open to innovation tend to be more prosperous and dynamic.

Information and energy are our lifeblood.

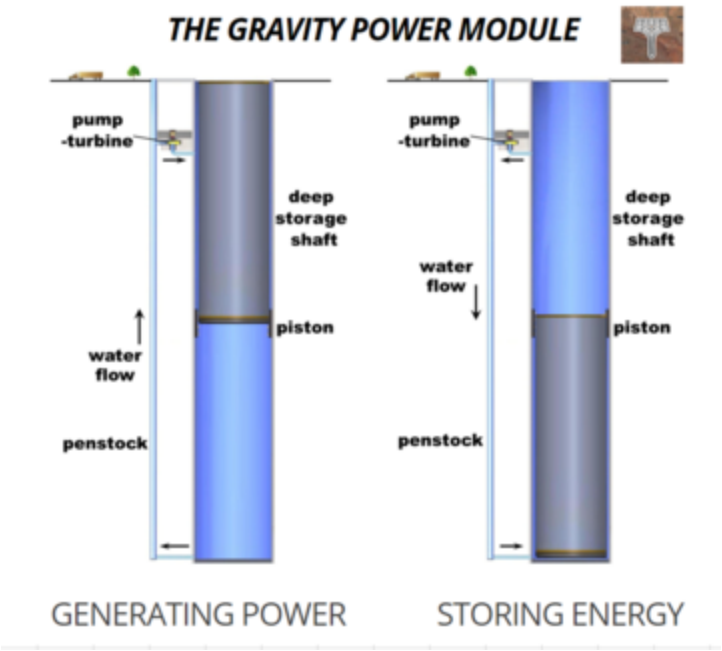
Information deficits are entropic. In layman's terms, information is what sustains us. Better information, better decisions. Better outcomes.
https://en.wikipedia.org/wiki/Von_Neumann_entropy

A Buckminster Fuller perspective on energy and information - http://peakenergy.blogspot.com/2009/02/buckminster-fullers-critical-path.html . A quote from the text is below -

"Tax-hungry government and profit-hungry business, for the moment, find it insurmountably difficult to arrange to put meters between humanity and its cosmic energy income, and thus they do nothing realistic to help humanity enjoy its fabulous energy-income wealth. Buckminster Fuller" - Critical Path

My thesis is that we can arrange to put meters between humanity and its cosmic energy income with relative ease. Blockchain technologies can provide part of the solution. How we arrange and coordinate our energy resources will ultimately assist us to enjoy our fabulous energy wealth.

Energy is available to us either directly in the form of harvested solar radiation or indirectly via some set of chemical processes. Gravity storage bypasses lossy production processes and provides a direct means for storing solar energy.



As an example of the potential performance of gravity energy storage, 1,200MW delivered across 4.6Hrs can be secured from a hole 700 meters deep and 30 meters wide.

While all this energy can power industrial infrastructure including hydrogen production, Bitcoin mining can act as an additional consumer of this energy. Multiple different consumers on an energy grid add to the stability of the grid through market risk reduction.

In regional Western Australia we have the Asian Renewable Energy Hub . Adding Bitcoin mining to the hub will create a demand for technical expertise and physical infrastructure such as data centres. Additionally, Australian entities will be the beneficiaries of Bitcoins harvested at cost.

Bitcoin harvests energy at the lowest possible price in order to be profitable. That means it's designed to be mined where energy is cheapest. Soon Australia will have the lowest energy costs in the world. We have a real opportunity to become the epicentre of Bitcoin mining by tapping our existing mining knowhow. Physical mining skills will be required to build large-scale gravity wells. Western Australia already has these skills and the necessary mining infrastructure.

Our coordination of activities required to bring Project Alpha into existence requires efficient trade.Trade requires trust and there is a cost-effective method for delivering trust in spades. Today our accounting systems are double-entry ledgers but tomorrow they will be triple-entry with merchants recording their trade activities with the open-source https://docs.baseline-protocol.org/. Provable transactions provide new possibilities for both the market and regulators alike.

As an accountant, I saw Cashflow Boost transactions appear as credits in the ledgers that businesses operate with the government via the Australian Tax Office - the Running Balance Account. That's when it became apparent to me that the Australian media, the political system, the banking system and the tax system should be considered as a single information system from a national perspective. A change in perspective provides an opportunity to reassess the design of a system for functional purpose.

There is a saying that there are only two certainties in life - death and taxes. But there is no reason that the tax system should be feared if it's constructed with this new decentralised paradigm in mind. A wholesale redesign of the system in light of abundant, low cost energy might align it with emerging information possibilities and potentials. Today we are the benefactors of https://www.sbr.gov.au/ which is an advanced information system utilising a standard taxonomy. The ideas that we inherited from the utilization of XBRL in the SBR project

suggest that human-machine language interfaces will radically alter our abilities to benefit from our information.

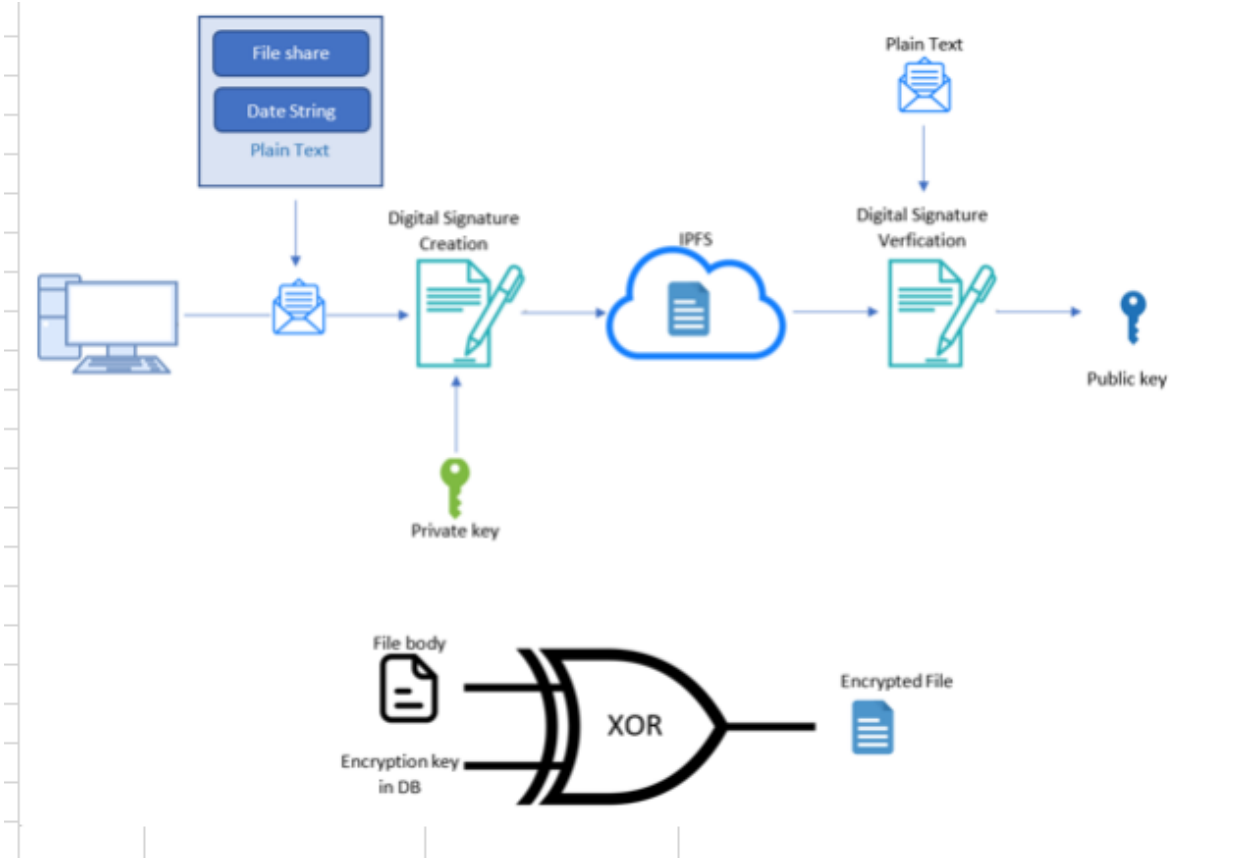
Our ability to measure, monitor and control the inflation of the nation's money supply is what delivers confidence to business via the utility of the Australian Dollar. Mathematician Eric Weinstein has suggested that current monetary theory is simply flawed. In his opinion, we must upgrade to Guage Theoretic math in order to gain a more accurate measure of inflation.

Now it's time for me to sign this document with my V-card https://www.w3.org/TR/vcard-rdf/
-

```
@prefix vcard: <http://www.w3.org/2006/vcard/ns#> .
<https://rdf.lodgeit.net.au/rdf/people/Andrew> a vcard:Individual;
      vcard:firstname "Andrew";
      vcard:surname "Noble";
      vcard:penname "futureWA";
```

...and add it to persistent storage https://ipfs.io/ as a .PDF file before submitting it to fintech.sen@aph.gov.au .

Using XOR to hash my V-Card data into the encrypted metadata associated with the PDF record stored in IPFS.Total cost of the operation - close enough to Xero that it's essentially free.



With an emerging perspective on the capabilities of cryptographic technologies we discover an interesting interplay between energy and information that has yet to be fully explored. Through this exploration process we expect to initiate Project Alpha. A megaproject with significant economic value, that will ultimately be measured as a function of the marginal cost of energy. A function that's already available - Bitcoin.

As an innovative nation that fosters freedom of information, Australia is well-positioned to lead the planet up the Kardashev Scale curve.