

Cosmic Accounting

Monergetics

Watt-Up

malcolm173@ozemail.com.au

Malcolm Greenstuart
Electrical Engineer
Australia

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This paper introduces an energy currency system utilising electricity, a system that could work across nations, continents or the entire world, replacing the existing monetary system. It reveals the structure of the system including how it would operate. It examines some philosophical aspects of the nature of structure – co-operation in dynamic balance with competition, is mirrored with tension versus compression, in a new structural arrangement (tensegrity), and shows how this new system embodies these balanced forces resulting in dynamic integrity. It shows how using energy-as-currency makes available new ways of 'making money' that could result in everyone achieving significant passive income. It shows ways of distributing energy wealth across society that will greatly help to achieve relative equity without attracting popular right-wing resistance. The paper explores technical aspects necessary for the new systems implementation highlighting that the potential for introduction of the system is growing. The paper looks at the future of work and income security and how this new system could impact upon this in a positive manner. It shows how the new system is relevant and appropriate for the future.

Preamble

There are many ideas of how to make the World a better place in the future. Many of these ideas are similar to returning to the past, the wisdom of the ancients, where apparently we will all have to 'cut back' a great deal. Other than that it is business as usual and more of the same, only bigger, when we can all plainly see that that is not really working for everyone and the planet's environment.

One fundamental issue that is not addressed in utopian rosy futures is 'how is everyone going to obtain an income?' Having an income, fundamental to living a life, is something that is missing for a great deal of the World's population.

Forget 'Make Poverty History' – poverty is a symptom, let's make 'not-having-an-income' history.

People worry about the greed of others and the wastefulness of others, however if we extinguish consumerism and greed, if we were highly efficient and did 'more with less', then the manufacturing sector would shrink dramatically, and the resources and transport sectors would contract along with it, many people would lose their jobs – what then for them? No income for many people does not equal a great future for the world.

However we do want to tackle the forces of greed, wastefulness and inefficiency.

It is a fact that many people really do have sensible worthwhile jobs/work at present, even these however are insecure. Topsy-turvy is surely the future of the World as great changes are forced upon us and the economy due to changes in technology, climate or 'regime change'. We live in a local or global system that can, in unexpected ways, suddenly affect (derail) us all, what about income security then?

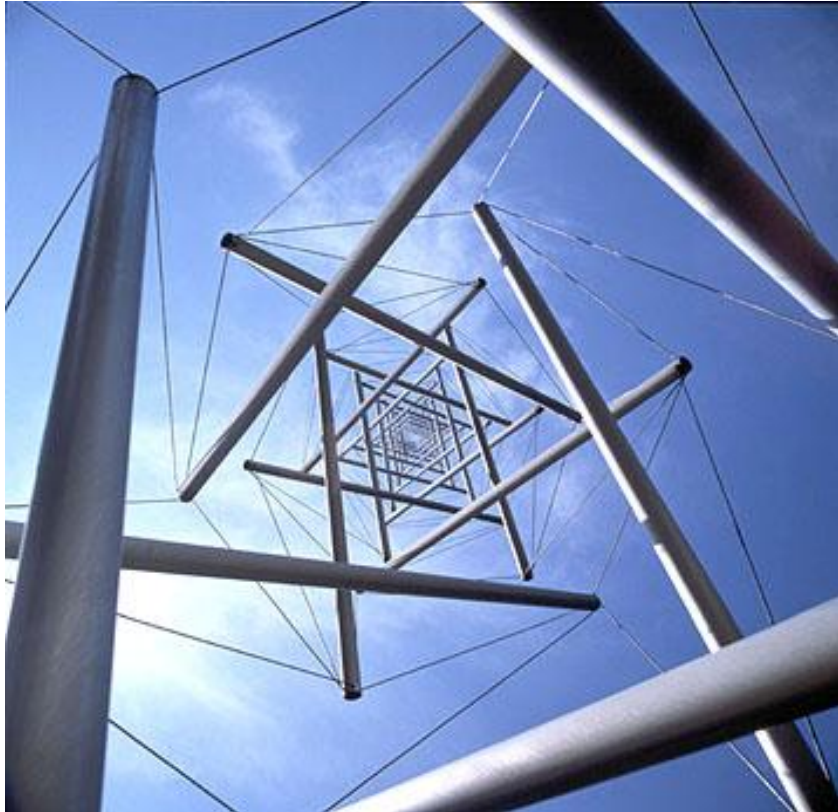
Most of us don't live in a forest, or have many acres available to us for farming – most of us can't 'live off the land' like we use to be able to do. Nor do many of us have sufficient shares in Blue Chip companies that we can rely upon for an automatic and secure income.

Also Social Security as presently practised often leads to people exploiting welfare, it leads to an 'us and them' attitude, and there is always the problem of how to find the extra tax dollars to support it (plus right-wing agitation against it). Similarly with regards to employment in the government sector.

If there is going to be any continuity of harmony and security in societies of the future, then security of income is going to have to be designed into the system. Illustrating this is a wholly new idea presented in the following.

Part 1.

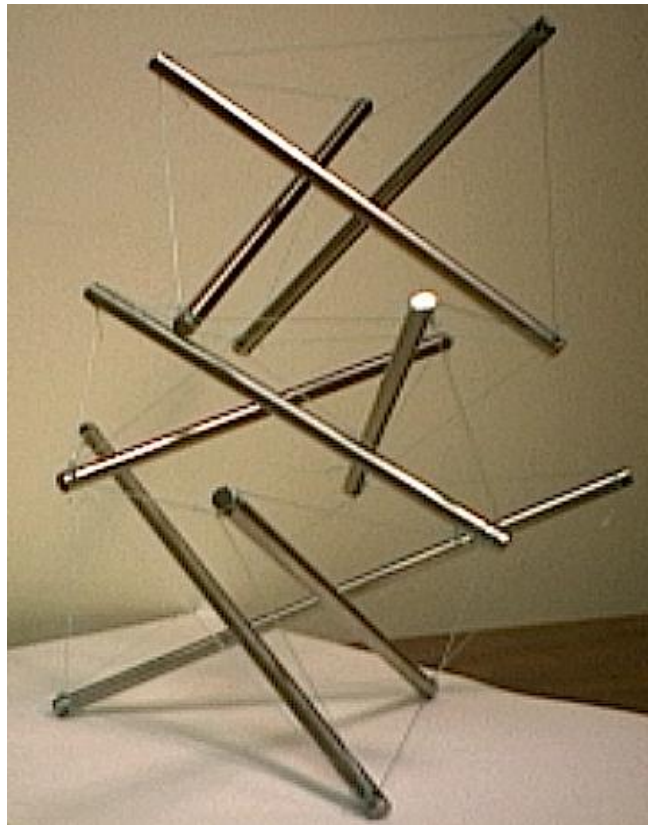
The picture shows a specialised structure known as Tensegrity



Needle Tower outside of the Hirshorn Museum, Washington DC, Kenneth Snelson

Tensegrity structures are a dynamic balance of the forces of tension and compression, the compression members do not touch each other, they are held together in a web of tension. As a structure they are strong, semi-rigid, light-weight, while at the same time maintaining flex.

These structures could be considered representative of the new economic paradigm. That they exist and 'hold up' indicates that they are an allowable system in Universe – they have true structural integrity. Along these lines a new economic system can be built – it follows that this new economic system could also be strong, self-sustaining while still flexible.



In these structures tension is primary as it is all embracing, while compression, as a force, is secondary as it is islanded (each compression member is an island).

Here is an example from living nature –



A tree on Philip Island, Southern Australia

This picture at least shows an amazing web of structural tension members within the tree

Tension and compression in the physical domain can be seen to be analogous, in the social domain, to co-operation and competition. When we co-operate - we pull together. When we compete for something we push each other out of the way.

At the moment we live in a world and an economic system that is principally competitive and only secondarily co-operative.

Tension is like integration and compression is akin to dis-integration. That a successful interplay of the integrative and dis-integrative forces of nature can exist in pure principle is illustrated by tensegrity structures, suggesting that a fully integrative interplay of co-operation and competition could also work. We are left wondering 'could a new human currency system facilitate and help generate an economic system of this model'?

What it is

Cosmic Accounting (3 elements)

1.

We make electricity (kiloWatt-hours) the currency of our society. This energy-money would be the medium-of-exchange that we use to pay for the goods and services of life, for daily living, and the whole of the economy. This is not a barter system. Electricity will act as the 'middleman' or the 'intermediate carrier of value' to facilitate the economic exchanges of different types of products and services in our society. That this new money can also be used to power electric loads in our factories, at home, and electric vehicles is a bonus and a true benefit. A unique feature of this form of currency is that it flows into the Earthian system from outside the system, from the cosmos, in the form of solar/renewable energy.

2.

Instead of money banks, where people store their money, there would be battery banks where people store their energy. These battery banks would be connected to the electricity grid so that the energy-money (electricity) could be uploaded and downloaded to and from the power grid, any time and at any location, just like uploading and downloading information on the WWW. This will enable using electricity as the medium of exchange in a normal way with high speed transmission of value over the network.

3.

Cosmic Accounting proposes a social system where 'the community' builds and owns solar farms and collects vast quantities of cosmic/solar energy. This would be the primary input of liquidity into the economy. Renewable electricity that is generated in this way on a daily basis would be distributed freely and equitably to everyone. This is the feature of the new system that demonstrates all-embracing integrative co-operative (tension). Everyone will receive a free income of energy (kiloWatt-hours) everyday! This means that everyone will have money (energy-money) to go out shopping with, to buy food and furniture, as well as using this energy to power home appliances, transport, etcetera.

*Now since the people, the public, paid for the renewable technology...
Income goes to everyone, rich and poor. This will not be means tested.*

Free market competitive enterprise, the same as today, still applies for anyone/everyone. It would be still

worthwhile to go out and compete with others to sell goods and services for an enhanced income. Individuals or businesses would give up some of their energy-money in exchange for the provision of the goods and services they want to buy, the point here is that the socialised method of free-money-electricity income, as described above, is complemented by normal competitive market activity (including working a job and being paid – the pay would be kiloWatt-hours too). Business would boom because everyone would have plenty of energy-money with which they could buy, however, unlike artificial dollars that devalue if there are too many printed, energy-money kiloWatt-hours are inherently valuable, plus they disappear as they are 'burned up' in factory motors or domestic appliances, so it will not lead to inflation.

When we purchase items at the shops the price of each item would be presented in terms of kWhs, where the price would reflect or encompass the amount of energy embodied in each item, plus probably some profit. For the service industries there may be very little embodied energy in their 'product'. People could still charge whatever they like, it would be a free agreement between the buyer and the seller that determines the amount of energy exchanged for the product or service.

We would swipe our cosmic energy debit card, then the system's computerised electrical accounting software would make sure that the right quantity of energy be extracted from our energy bank account and sent to the shop's energy bank account. Similarly for eBay purchases, energy would be uploaded onto the power-lines and sent across the grid to be downloaded to the seller.



Cosmic Card courtesy Pangea Prouctions

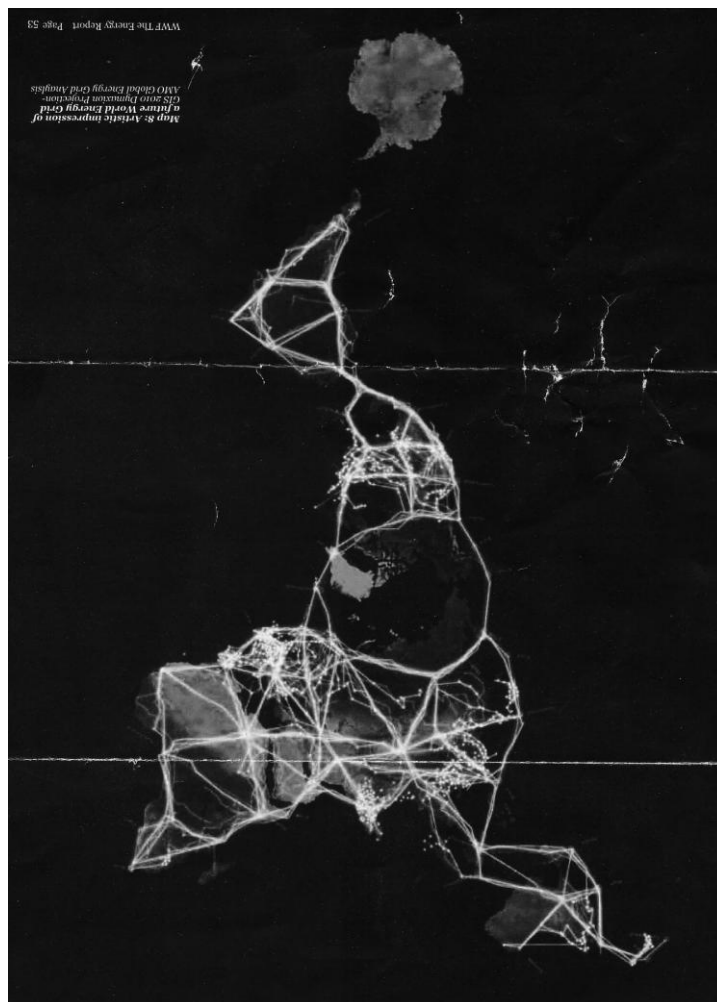
Solar Power

Cosmic Accounting obviously relies upon great sources of solar power. After much reading, direct measurement, analysis and calculation, the author is satisfied that the solar resources of planet Earth are far more than sufficient to supply mass quantities of energy into a sustaining global human society. For example the author has calculated that just one percent of the land area of one state of Australia (the state of Western Australia) if dedicated to highly-efficient solar-thermal technology, solar parabolic dishes, as developed by Professor Stephen Kaneff formerly of the Australian National University, is sufficient to power China's entire current demand for electricity. Furthermore many people are becoming aware of the great energy contribution coming from domestic rooftop solar panel installations – a free income on an individual or household scale.

Nb. Wind power also can be regarded as solar power

The Global System – Super-conductor grid and high speed internet

Below shows a map of the world illustrating a globally interconnected electricity grid in potential. Australia and New Zealand lie in the bottom right hand corner of the map, with South America at the top.



Courtesy of GENI Global Energy Network Institute

Many people seem to think that the transmission grid absorbs a great deal of energy, however this is only true if it is poorly engineered. High voltage AC and DC links might lose only a few percent of the energy they carry over thousands of kilometres. Furthermore the future holds the potential for superconductors. The first super conductor cable, about a mile long, was installed in the Long Island New York electricity grid in 2008.

It is true that the currency system of energy accounting would put a strain on existing electricity transmission infrastructure. This infrastructure will need to be reinforced. Germany has just announced that it will spend 30billion Euro on their transmission system so that it can harness more wind and solar energy.

In an energy currency system there could be balance of trade energy accounting where electricity going in one direction in payment could be cancelled out by energy going in the opposite direction in payment, this will greatly save the total amount of energy that needs to be conducted across the grid.

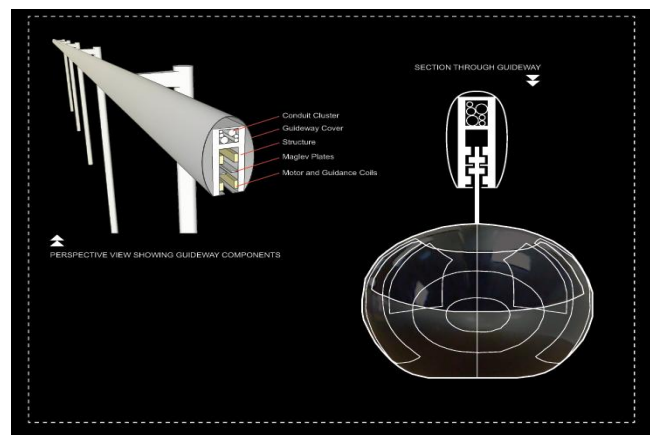
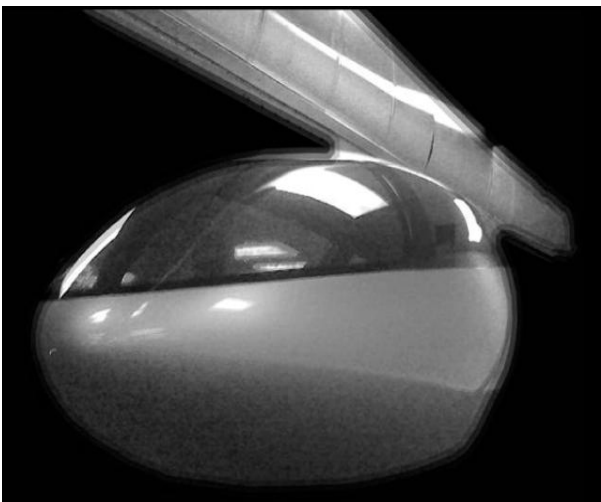
Very high speed data transmission rates will also be required to transmit all the information of all the commerce happening everywhere. These high speeds are becoming more common (google Mark Keel Chattanooga).

Doing more with less, this is critical

Cosmic Accounting is a good economic framework for the future.

With the current economic system the future is a real problem, as the future calls for much greater efficiency, and thanks to super-high technology 'Man' is able to deliver this much greater efficiency. However if society (and its machines and robots and electronics and automation and mass-manufacture) is going to be so very efficient it looks as though it will be very difficult to give everyone a formal job paid for from dollar income generated from the competitive cut and thrust of business activity. Even a job paid for from delivering a public service could be under threat.

Existing in the world today is a proposal for a new form of transport. It is suspended individual monorail pods running under magnetic-levitation light-weight track. This form of transport could make a vast impact on city travel, making commuting tremendously efficient, far more efficient (and cleaner) than gasoline guzzling internal-combustion automobile cars. To propel these suspended monorail pods (each standard pod could carry two people) requires the energy equivalent of just two hair-dryers (!) and has virtually no moving parts.



SkyTran

This new technology coming in to society, a technology that makes sense and would be so good in so many ways, would be a great threat to many existing businesses and many people's jobs. It could be that introducing this technology would initially meet with dis-interest (from government officials) and then encounter great resistance as businesses under threat (fear of losing their white-collar jobs) whip-up unions for popular resistance to something that would make their work redundant and strip them of income. This is a very real barrier to introducing efficiency into our society. There would be myriads of examples that could be referenced to demonstrate this situation.

In a Cosmic Accounting future, however, where everyone (including white collar workers) have a free and automatic income of truly valuable kWhr energy-dollars, threat of the disappearance of current employment (and the income that comes with it) is not so critically disabling or troubling.

Cosmic Accounting is not threatened by unemployed or idle people – particularly when people do have 'money' (their automatic and substantial energy income) with which they could go travelling, or start an enterprise of their own, or afford to purchase time at gyms or intellectual training facilities. With Cosmic Accounting, because of an automatic income, a great deal of superfluous work, work that people were doing only, not that they wanted to – only doing because it paid an income – a great deal of that sort of work probably would be given up. Vast layers of societal inefficiency or superfluosity might just slough off.

Cosmic Accounting mimics how Universe accounts – in terms of energy
consider this paraphrase from Buckminster Fuller

...we must accomplish conversion of our present-day only-on-Earth wealth accounting system and synchronise our planetary economic affairs with the time-energy behaviour laws demonstrated by astrophysics to be in economic governance throughout the entire cosmos. *Little planet Earth, of our small star the Sun, is not exempt from the laws that the rest of the universe is following.*

Critical Path, 1981, p199

The future of energy storage is sure to be important. Battery technology is developing rapidly at the moment, especially with the development of 'ultra-capacitors' married to very good batteries (lithium-ion) to make 'ultra-batteries'. Other methods such as 'pumped-hydro' and reverse thermal ammonia reactions also have a big future for mass energy storage.

In the Cosmic Accounting system everyone would have their own personal battery energy storage system connected to the electricity grid. People would be able to send electrical energy (kiloWatt-hours) into the grid, and receive kWh from the grid, similar to how we today use our computers, uploading and downloading information across the internet, to and from our hard-drives.

To store our personal energy-money more efficiently, there could be large communal battery banks, and these would operate like big banks at present, where customers make deposits and withdrawals over the internet, only people would be depositing and withdrawing electrical energy.