

Split Article – Energy Currency

As we survey our economic and social landscape in this first part of the 21st century, we see a great deal of imbalance, confusion and lost opportunity. Fiat currencies and the financial and banking systems built on them are responsible for a good deal of these large and visible problems. Furthermore, fiat currencies are responsible for obscuring the much larger problems with which we should be dealing.

Climate change, debt, resource depletion and scarcity, inequality and fiscal and trade imbalance are all critical problems which our fiat currency based financial systems both mask and exacerbate. Dealing with them should be our true priority but instead we find ourselves stuck in the mud and fog of finance.

Human society needs tools which illuminate our circumstances and options. A fiat currency based financial systems produces illusion, not illumination. Money now dominates our financial and social worlds but in a healthy economic and social system, currency would function as a tool and not a master.

What we measure determines what our targets are. If we want to do more than maximize consumption and strive for growth-forever, we need to identify new goals and create measurement systems which will allow us to reach them.

Fiat currencies are a Gordian knot. A back to basics approach asks which currency systems have worked in the past and what will work in the future.

Historically, most forms of currency have had high intrinsic value - cattle, grain, metal, arrow heads, iron coins etc. Effectively, they were a barter system - real goods on both sides of the transaction with no hidden or lingering after effects.

For a commodity to serve as the basis of currency, it must have two principle characteristics.

1. It must have widely appreciated value in its market region.
2. It must be available on a reliable basis. Reliability is what made the Egyptian wheat currency function so well over 1500 years. The Nile almost always replenished the Egyptian soil in its annual floods allowing the Egyptian wheat crop to become the most dependable food source in human history. The society endured and so did it's currency base and banking system.

Humans have always used the most readily transportable, highest value commodity as a basis for exchange. The effectiveness of a currency is its ability to fulfill the needs of the society which is using it.

Here is a table of commodities which have been used as currency and many have worked well. Their strengths and weaknesses vary considerably.

Historical Currency Viability Table

Units	Intrinsic Value	Scientifically Definable	Portable	Scalable	Widely Valued	Defined Redemption	Long Term Stability	Score
Knife Blades Arrow Heads	high 8	high 8	good 7	fair 4	yes 8	yes 10	yes 10	55
Cowrie Shells	low 2	low 4	high 8	high 8	yes 8	no 2	medium 7	39
Gold	low 4	high 9	high 10	high 10	yes 9	no 2	medium 8	52
Seal Oil	high 10	high 9	high 9	high 9	yes 10	yes 10	yes 10	66
Wheat	high 10	high 9	medium 8	high 9	yes 10	yes 10	yes 10	66
Cattle	high 10	medium 7	fair 5	poor 3	yes 8	yes 10	yes 10	53
Tobacco	medium 4	medium 7	yes 7	yes 8	medium 6	yes 8	yes 8	48
Printed Money	none 0	no 0	yes 10	yes 10	medium 8	no 0	poor 4	32
Commodity Certificates	high 10	high 9	high 10	poor 4	yes 9	yes 10	yes 8	60

The best forms of currency have been the ones which have had high intrinsic value. Humans moved away from functional value to broadly perceived value with the move to cowrie shells and precious metals. This was required because commodity based currencies of the day had neither the scale, portability nor liquidity to support the potential of rapidly expanding trade and the increasing complexity of goods production. Gold, which has very little intrinsic value, is essentially a global fiat currency and so ubiquitous it was the closest thing to an intrinsic value commodity available. To this day most people think gold in itself is actually worth something.

Which currency looks to have been the most successful? The historical record says wheat currency because it lasted for a very long time and a very sophisticated and stable banking system was built around it.

But nothing beats the Swiss-army-knife-practicality of seal oil. Not only was it an excellent medium of exchange but it provided heat, light and was edible. It could also be used to waterproof a kayak! However the Eskimo or Inuit culture was not a dominant, complex culture with a banking system as was that of the Egyptians so wheat currency has to stand as the reference.

Commodity certificates exchanged between merchants also worked extremely well. Defined goods exchanged between experts with a specific redemption time - hard to beat. In 18th century Europe these commodity certificates were written on paper while they were inscribed on clay tablets in ancient Egypt and Assyria.

After a run of several thousand years, gold was replaced by printed fiat currencies when even precious metals failed to be able to keep up with the scale and complexity of a burgeoning commercial economy. Also, let's be honest, the printing press opened up the opportunity for commercial and government fraud on a never-before-dreamed-of scale. The time of the commodity based currency appeared to be over.

Despite its current dominance of world finance though, printed fiat currency ie baseless currency is coming under a very critical light. And none too soon.

Fortunately, a suitable replacement is available. The uber commodity, the one upon which all other commodities, our economies and our societies are now based, is available. Over the past century, it has stepped beyond its embodied forms into pure stocks and flows which can be applied for any purpose. It has the scale and the liquidity to meet all of the demands, both present and future, of an advanced currency.

Energy is ready to be established as the monetary representation of the real wealth creation process which it now empowers. Energy is the physical basis for our economies and societies and it is past time to measure our progress in the commodity which is directly responsible for it. Every bit as much as seal oil for the Eskimos and wheat for the Egyptians, energy sustains the modern human condition.

Imagine a truly advanced society in which environmental assets and human development were valued instead of cash flow and consumption. Imagine a system of exchange based on energy. The word "money" would not exist.

Picture the perfect currency. A stable, vital commodity with very high intrinsic value which could be easily carried around or transferred over an omni-present network.



And here (cylinder) is what it might look like. This storage system as envisioned would hold say 100kWhrs - the energy equivalent of 10 litres of gas - the conversion between gasoline and kiloWatt hours is amazingly convenient! It could download into a device the size of a cell phone and you could tell how much energy was in it by placing it into

said device. The transfer devices are ubiquitous in public, private buildings, vehicles and anywhere where humans need or generate energy. Just like our current electrical and fossil fuel systems. Effectively, every wall plug is an energy banking machine. This would be your new wallet.

If this technology actually existed, monetary problems would not be at the forefront of public discussion nor would we be experiencing as many of the social and economic issues we are today.

To put this into perspective, just about everything has been used as currency. Many commodities have worked pretty well for many centuries. It is impossible to believe if energy had been available as a storable, transportable commodity 2000 years ago that it would not have been adopted as the only currency then and remain so today. What could replace it, time? Time is the only other commodity as vital as energy.

In the history of human exchange, unless it was direct barter, the means of exchange has always been the most commonly available, most scalable, most widely valued commodity. This perfectly defines energy in the 21st century.

Future Currency Viability Ranking Table

Units	Intrinsic Value	Scientifically Definable	Portable	Scalable	Widely Valued	Defined Redemption	Long Term Stability	Score
Energy in 2012	high 10	high 10	high 11	high 10	yes 10	yes 10	yes 10	71
Seal Oil	high 10	high 9	highly 9	highly 9	yes 9	yes 10	yes 10	66
Wheat	high 10	high 9	medium 8	highly 9	yes 10	yes 10	yes 10	66
Commodity Certificates	high 10	high 9	high 10	poor 4	yes 9	yes 10	yes 8	60
Knife Blades Arrow Heads	high 8	high 8	fairly 7	poor 3	yes 8	yes 10	yes 10	54
Gold	low 4	high 9	highly 10	high 10	yes 9	no 2	medium 8	52
Cattle	high 10	medium 7	fairly 5	poor 3	yes 8	yes 10	yes 10	53
Tobacco	medium 4	medium 7	yes 7	yes 8	medium 6	yes 8	yes 8	48
Cowrie Shells	low 2	low 4	highly 8	high 8	yes 8	no 2	medium 7	39
Printed Money	none 0	no 0	yes 12	yes 10	medium 8	no 0	poor 4	34

Contrast this to the Zimbabwe Hundred Billion \$ bill. Zimbabwe on one side, energy currency on the other. If there was really an energy backed currency, which side would have the most credibility?.



The Chinese were the first to develop the printing press and apply it to money around 1000AD and therefore were the first to experience hyper-inflation. Records are scant but we can be fairly sure some Chinese government officials and merchants got rich while a great many peasants starved in this process.

This 100 kWatt hour cylinder precisely represents the work that can be done and the work that has been done. It is directly related to the real wealth creation process.

The Zimbabwe \$100 Billion bill lost its connection with the real wealth creation process the moment it was released. It represents a claim on real wealth, not a guarantee of past or future real wealth creation. What it represents now and what it represents in the future can be very different.

When will a fiat currency note be redeemed and how many of its sibling claims are in circulation relative to how much real wealth are questions which absolutely no one can answer. The last person to try to redeem the printed promise will likely be disappointed. It is unlikely that the promises printed exactly matched the goods available and even less likely that the goods available exceeded the amount of the promises printed. In the final stages of the cycle when the mismatch between expectation and reality becomes all too apparent, we refer to it as a monetary crisis. But it was a crisis from the beginning, we just didn't realize it at the time.

Societies and economic systems have been plagued by monetary problems since money was invented. To be sure there have been major disruptions of the economic system by real world disasters but these are much more rare.

Our current economic woes are driven by monetary distortions primarily and these mask the real world challenges that must be met.

Like climate change, everyone these days is talking about money but no one seems to do anything about it. Money should not be a topic for discussion, it should just be toiling away quietly in its small corner, while human societies address their major issues.

Another trap of monetization is that it obscures the workings and structure of the economy. Money priests have aggregated measurement of the real wealth creation system beyond any recognition of its actual function. Economic levers no longer deal with the structure of the real economy, they deal with flows of money. Fiat currency systems have gone completely missing on representing and predicting fundamental physical trends. This makes understanding and addressing real world issues impossible. Adoption of energy currency will not cure this problem completely but it will strip away several layers of illusion between policy makers and the economic mechanism for which they are responsible.

We need to move to a system where money is real, scientifically definable and used in a way which can be fully monitored and fully understood. If there anyone on this planet who understands the current monetary system, they have yet to step forward and explain it. It is impossible to fix or fine tune that which you do not understand.

An energy based currency system will be less complex, less prone to corruption and more manageable. Therefore it will be more stable allowing the rest of the productive economy to attain its potential without the destructive cycles inherent in a fiat currency system. Energy currency in this (cylinder) form is monetary system perfection because it is real, scientifically verifiable and timeless.

But let's take a step back from an idealized solution which does not yet exist to what we can do today. How can we take a step towards perfection or more realistically, into more shallow mud?

The Way Forward

Energy currency or more exactly, energy certificates should be used as the reserve currency for international exchange. So in effect, nations will be exchanging stocks of energy rather than pallets of fiat currency or flurries of keystrokes to balance their trade accounts.

An energy certificate would define an amount of energy equalized to kilo Watt hours in a specific form (oil, gas, electricity etc) deliverable at a specific point and at a specific time (no more than 3 years out). There would be no stale or worthless paper in this system, just specific claims on a clearly identifiable quantity of a scientifically defined commodity in a set time period. Defined goods, clear redemption time, rapid turnover means no accumulation of undefined claims.

If the international currency reserve system were based on energy certificates, it would have the following impacts:

- eliminate competitive devaluation of currencies

- eliminate Dutch disease wherein one strong sector of a nation's economy damages other sectors by inflating the value of its currency
- eliminate the disconnect between the consumption and real goods production level of nations fostered by fiat currency valuation illusions.
- eliminate the problem of distorted exchange rates causing a competitive mismatch ie a producer with high material inputs and lower labour efficiency underselling another producer in another country because of exchange rate anomalies.
- National currencies would not cross borders nor would any bond or certificate based on them.
- speculation would disappear from international finance.

The basis for this effort isn't simply to establish a technically superior lubricant of commerce but to re-attach the financial sector to both society and the means of real wealth creation. Energy currency will do more even than establishing clarity and cohesion in a fractured, murky and indecipherable economic system, it will give us real links to the natural environment as well as a more realistic view of the future. Energy has become our present and energy is definitely our future.

Right now, world finance dominates world politics and economics. Adopting energy currency will make the monetary system a reliable tool rather than a deranged master allowing us to better prepare for the coming decades of radical environmental, resource and social change. It will simply do its job, not take over the entire enterprise.

Energy based reserve currency will be a vital tool and its adoption is a glittering opportunity for human society wrapped in the pressing necessity for immediate and effective action. Money based on real commodities has never crashed. It's time to make money real again.

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