

# **PhiEconomy's response to the health, ecological & social crises leveraging together exponential technologies & the minimum expected income as a balancer for global equality**

Author: Alejandro Sewrjugin

## **INTRODUCTION:**

On this paper, I will address four major design problems, from my perspective, which are preventing us of having a sustainable, inclusive and collaborative global economy; and at the same time, I will provide a systemic solution as a response to the current health, ecological and social crisis we are living in. Finally, I'll provide a type of basic income -which I dubbed minimum expected income or MEI- as a balancer for global equality and inclusion.

Note: for the purposes of this paper, the words cryptocurrency, cryptocoin and token should be understood as synonyms.

## **FOUR MAJOR DESIGN PROBLEMS:**

1. Centralized Nation-based monetary issuance problem creates income and wealth disparity among countries, do not offer transparency & accountability to citizens, nor citizens can participate in the process of monetary issuance.
2. Consumerism problem: money issuance as debt creates the need to produce & sell goods to the infinitum -without a "WHY" & "HOW"- just for the sake of getting an income. Companies pursue revenue instead of value –ending up in a global financial system, instead of global value system-.
3. Jobs problem: power asymmetry -> people who can access capital vs who cannot –ending up on salaried work, only way to access an income for most part of world population-. Notion of "work", centered only around market's forces.
4. Equality & Inclusion problem –gender, skin color, nations-: historically, only white male -occidentals- access to capital –based on a notion of value inherited from the Occident-. Groups which do not participate in the market economy are excluded -dependent- and indirect message imply are "non-productive" -a burden/liability to society-

## **Centralized Nation-based Money Issuance problem**

On every nation on this planet, money is being issued the same way and under the same logic. It is created in a centralized way -by intermediaries, by institutions- and issued as a debt -a "promise" of value to be fulfilled only by commercial transactions in a market environment if that money is utilized in the

way political expectations are drawn; i.e: creating jobs and companies or expanding the reach of the existing ones-. Around +/-10% is the M0 -currency in circulation- and the other 90% are the bank aggregates -M1, M2, M3-. Just in the US, this has reached +60 Trillion USD by 2008<sup>i</sup>.

The central argument to do this is national economic policy. Any country needs to be able to look after full employment, price stability, economic growth & for those there is a design on tax policies, monetary policies & foreign policies.

One of the inherent problems on this vision is around what we consider as value -or valuable-. Seems like the only way to produce value in the society -and be able to monetize it- is through commercial transactions -we produce something, susceptible to be sold-. Unless we do that, anything we do should be outside of economic value or not considered as valuable. This excludes different human groups, either by age or gender. Groups like boys & girls, adolescents, women, senior people or older adults. This view of value left aside from the very beginning of the economic design the largest portion of the humankind and send an indirect message -which is key when we talk about inclusion-: these are non-productive groups and any economic policy we create around them to create a social net, it is seen as a cost. They are felt as a “burden” to society -so when public budgets need to be adjusted, those are the people where we cut costs, for being non-productive-.



So large portion of money creation is reserved for males -and mostly white, as this notion of value is inherited from occidental roots-. Just have a look at any of the Monthly Billionaire list at Forbes Magazine in the last 25 years and you'll see all white male faces -and mostly even the same faces-.

In connection with above, there is a 2<sup>nd</sup> problem: people who are in the system for long, can participate much better in the money issuance cycle than newcomers -young people-. People without an economic history has very few possibilities to start in this process -unless they have connections or live in a rich family and can start their own business-. So usually, the only way is by getting a salaried or wage job -work for other who can participate in the money issuance process-. This is true, as said before, 90% of money creation happens at the banks (M1, M2, M3). So capital reproduction goes deeper and deeper,

accumulating more and more at the top of pyramid -in terms of money and power-, leaving few possibilities to a large portion of the population. This really becomes a punishment for people who are not interested in a labor work nor participate in a process of production and selling.

So money creation really revolves around creating good and services to be sold in the market. It funnels the need to produce things and sell without questioning ourselves: is all of this necessary? Or even, does this help us to take us as humankind to the place we want to be?

And the cynic side of this is: we all pursue money -money without a previous value, issued as a debt; without an intrinsic meaning, not linked to any specific collective purpose/objective other than what I've noted previously-. Vast majority as they cannot participate in the issuance process, minority in order not to lose it. So, we are all in the mouse's wheel for most of our lives. Created a big financial system which have forgotten what is important: what are our goals for our human's lives...

### **Consumerism problem**

Due to the economic design in the way money is being issued, we have created a system where to get an income, we need to create & sell good and services for a living. This creates a process where we need to create goods and services, despite of being them needed nor think about the implications these processes can have to our way of living. This is a system which has moved from a basic's needs provision into a financial system where the only value present is money reproduction -and not value reproduction-. This trap is making us to magnify the weight of a market environment -being the center of our lives and the only possible explanation for "value"-, generating a negative spiral into an engine of production, sales & consumerism. Anything that is beyond or outside this notion, it does not have any intrinsic value to us and could be consider either a "nice to have" or a "burden" to the society. Nature & other species are considered "assets" or "resources" in order to continue to reproduce this production and sales processes which is the main meaning to most people lives.

It is becoming crystal clear we need to decouple money issuance from the market's forces -jobs creation, good production-.

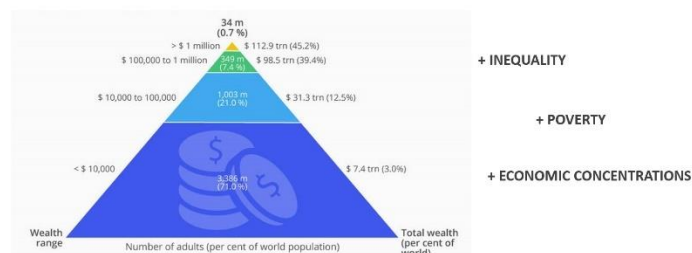
### **The job problem**

Based on the above, the job problem is clear: most of the people have no access to money issuance therefore the only way to access an income -and support their individual needs for living- is via salaried or wage jobs. And this is a total asymmetry of power, creating a dependence of goods & service production in order to satisfy those needs for an income. Moreover, if we analyze the pyramid of wealth, we see that in the last twenty-five years -despite

being the biggest economic growth experienced by humankind in all its history- the inequality, economic concentration and poverty continue to rise -and not shrinking-. According to ILO -International Labour Organization-, on its “2017 World Employment and Social Outlook”<sup>ii</sup>, 930 million workers in the World live in extreme or moderate poverty -earn from 3 to 7 USD per day- and other 270 Million are unemployed -and looking actively for a job-. This figure represents 46% of the Global EAP -active economic population- which is 2.600 million workers. If we look at any of the past years, previous reports from ILO, those percentage numbers on the global population did not change at all. According to different surveys, around 70% of global population are not satisfied with their daily jobs<sup>iii</sup>

## SCARCITY & MATERIAL WEALTH

### THE JOB PROBLEM



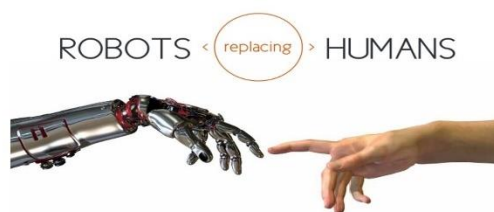
The International Labor Organization (ILO): 930 Million workers live in extreme or moderate poverty (U\$s 3 to 7 per day) + 270 Million unemployed ("salaried" world's EAP: 2,600 Millions).

70% of those workers are "unhappy" with what they do

Source: [https://www.ilo.org/global/research/global-reports/wess/2017/WCMS\\_543213/lang-en/index.htm](https://www.ilo.org/global/research/global-reports/wess/2017/WCMS_543213/lang-en/index.htm)

World Bank Digital Dividends 2016 Report<sup>iv</sup> also tell us about the likely chance of 80% of those salaried/wage jobs disappearing in the next decade due to the increased dominance of AI, Robotics and process automation being experienced on companies and corporations -with East Asia, Africa and Latinamerica as the most affected regions-.

## MARKET'S JOBS REPLACEMENT



World Bank: Alert us about the possibility that 80% of today's manual jobs may disappear in the next few years by AI, Robotics and Process Automation. (LATAM, East Asia and Africa with greater impact)

This is ACTUALLY a POSITIVE SIGNAL, "an opportunity", to generate new jobs/occupations THAT MATTERS, that INSPIRE US -those who fulfill them- seeking to address those Great Global Challenges.

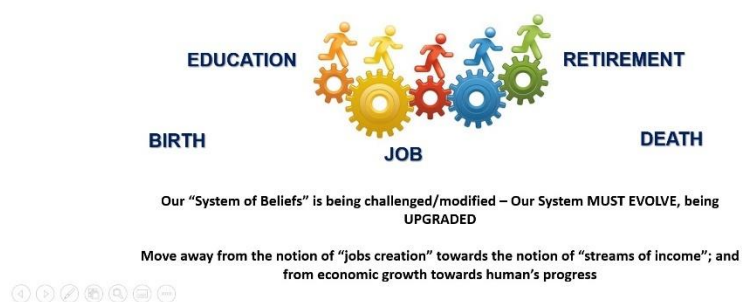
SOURCE: <https://openknowledge.worldbank.org/bitstream/handle/10966/23347/9781464806711.pdf>

So we see that jobs creation as we know it today -mostly promised by any government in the world- generates only poverty and could disappear for a vast portion of the population in the next years and decades.

John Maynard Keynes, on his “Economic Possibilities for our Grandchildren” essay<sup>v</sup> -written in 1930- postulated that the humankind will be the first species to conquer what he called the “economic problem”. This meant, the need to “work” in order to satisfy individual’s basic needs. He was pointing out that in 100 years -year 2030-, humankind will reach that threshold -based on processes innovation and possibly automation- but a new and much more bigger problem will arise: we, as a species, are get used to spend most of our time in tasks to produce and satisfy those needs. And we are not prepared to face a different destiny, what are we going to do with our free time...We do not ask ourselves about the objective/purposes we have in life, we just keep working as the mouse runs on a wheel....

So, we have two different things coming into play: the loss of jobs as we know them -which are basically an asymmetry of power created by the way we issue money and a need to get an income for most people on the planet- and the loss of very profound meaning to our lives: the notion of “work” being at the center of our life. Our system of beliefs is being challenged: our concept of education, which is preparing us for the future and get introduced as a new human resource in the market wheel & get a decent life through a job & later on a retirement might be becoming obsolete. Our system must EVOLVE and needs to be “upgraded”. We need to move slowly from the notion of jobs creation - which only recreates poverty & asymmetry of power- towards the notion of “income streams”; move away from the notion of “economic growth” -which in the last 25 years experienced an increase of wealth as never before, but did not translated into a better quality of life for most people on the world, at the same time it was generating big grand challenges as well rounded up on the Sustainable Development Goals by United Nations, specially the climate emergency- towards the notion of “human’s progress”. As Kate Raworth put it on her book “Doughnut Economics”<sup>vi</sup>, we have designed an economy to grow - whether it is prosperous or not- and we need to design an economy to prosper - whether it grows or not-.

### OUR LIVES REVOLVE “AROUND” THE “MARKET”



### Equality & Inclusion problem

When we talk about equality & inclusion, we should think/include so many different aspects that make up these words. Those are so meaningful and broad that encompass not only economic processes but also how we see each other and can interact in the society & with our environment.

One of the key aspects on inclusion: sending a message of non-productive to certain human's groups is one of the big problems of our times. Groups like boys, girls, adolescents; LGBTIQ+, Women, Older adults that are excluded from the market-related processes are always seen as a burden to the society. Even women, in the last few decades, needed to conquer "a place" within this territory and even nowadays they are still struggling to have same pay for the same type of job -and moreover, over the course of thousands of years, women dedicated most of the time to what we call today the "caring economy"; and this was also considered as of not value at all and a "duty" they need to fulfill. Recent studies done by the CEPAL<sup>vii</sup> in Latinamerica, put the unpaid work executed at homes as a contributor of up to 20%, on average, for national GDPs in the Region<sup>viii</sup> - where women participate in 70% of the total time applied to those activities-. The perception for all these groups is either they are not useful, or they do things with no value. And this is true not only inside each nation but also cross-nations. Gender violence, xenophobia, or even child labor are externalities generated by this notion of value.

Nation backed currencies are also connected to this problem. Depending on the power of each currency, externalities are created like migrations due to economic problems & produce first world countries vs non-developed ones -with different classes of global citizens-. Visas are the most perfect example of inequalities in the way we treat ourselves as global citizens -you might be considered a "delinquent" by just not having an "approved" document-. National currencies that rely in economic mechanisms that do not explain anymore the value we expect nor create progress or decent lives continue to recreate and expand this problem -so it did not come as a surprise the European Union needed to create a regional currency in order to keep up with some degree of economic power to their nations. As Silvio Gesell put it on his book "Natural Economic Order"<sup>ix</sup>, the German Mark is "a scrap of paper!" -when talking about the separation of precious metals and the bank notes- and what a law define as value and currency, another law can change it. But one question remains: is there a genesis of money? Are there other forces in nature -besides the ones at play at a market environment- that justifies the "printing" of money? Is there a "soul" to money?

### **What is PhiEconomy<sup>x</sup> proposal?**

It is a new theory of value and money -where Basic Income play a center role to balance wealth at the "glocal"<sup>xi</sup> level-, enrolled under what is started to be called Regenerative CryptoEconomics<sup>xii</sup> -which sits on the Blockchain, Proof of Work & algorithms- to provide a response and address our economic design problems to create a true sustainable, inclusive & collaborative global economy.



“We cannot solve our problems with the same thinking we used to create them”.

So, what we should be doing? Apply technology development -not towards creating new products/services- but to solving human's great challenges of this era -U.N. Sustainable Development Goals as a start-.



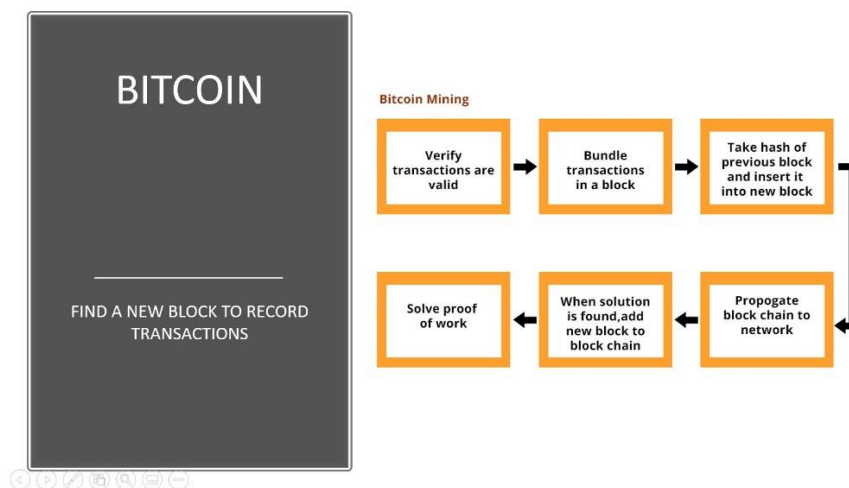
In this way, we can humanize technology as its progress towards processes helping us create that new type of economy. Connecting exponential technologies development to human's progress. So, can we radically transform our classic notion of economic value in order to set the foundations for a new sustainable, inclusive and collaborative system, under a human & planetary perspective? To make that happen, we need to re-align economic incentives in the system -aka money issuance- towards a broader notion of value -rather than only what can be bought or sold-.



The way the Bitcoin is produced can enlighten us into a new way of thinking and a nature of money. Money being issued with a “previous” value -nor dependent anymore from a metal precious representing its value, not a law that support a value of a bank note-.

Bitcoin was created as an incentive mechanism to fulfill a purpose: create a decentralized system for money payments at the global level. Its focus is having a technology called “blockchain”<sup>xiii</sup> working without any institution behind it. Just via the wills and efforts of people, contributing with their resources - computational power & electricity- to maintain this system -these people are called “miners”-. The process for which the Bitcoins are being issued is named

“proof of work”, where an algorithm<sup>xiv</sup> controls the reward mechanism in an autonomous way<sup>xv</sup>. I will not enter into the technical details on how the proof of work is designed nor work, as this is not the focus of this document -but this is available on any of my talks in social networks and also I make myself available for future/farther conversations on this-, but I can say it is based on mathematics -something we called “brute force” in computing- and assures a predictive cadence for money issuance -if Bitcoin is seen as such-. The goal of the Blockchain is to maintain an unaltered record of transactions in a public ledger and at the same time validate that those transactions done directly between two persons are not counterfeit -this means the money being transferred is not fake and the person spending it have the rights to do so-. Miners compete, via validating transactions and solving a mathematical problem, for a Bitcoin bag of rewards every ten minutes -time used to create one block of verified transactions and add it to the blockchain-. Satoshi Nakamoto -creator of this process- designed this mechanism to create a new organizational system: Autonomous Decentralized Organization -or DAO<sup>xvi</sup>-. And this has profound implications to our current society design and the way we create value or interact together.

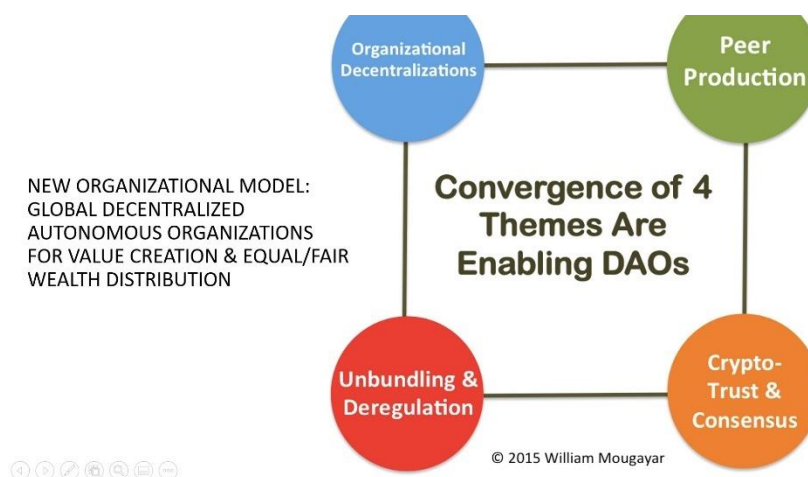


There is a miss perception on the global media and within politics, environmental and business circles that Bitcoin mining is bad for the environment. In general, when someone wants to attack the cryptoworld or the Bitcoin, take this route. But studies and a much deeper understanding on what the proof of work is and what it incentivizes, can shed a completely different picture on this matter. According to research done by global consulting firms, companies or cryptocurrency related councils, like the Bitcoin Mining Council (BMC)<sup>xvii</sup>, Bitcoin mining encourages the development of more efficient renewable energy solutions. According to its Q4/2021 report, Bitcoin mining uses “a higher mix of sustainable energy than any major country or industry in the world”. BMC collected the data from over 46% of the global Bitcoin network. BMC members and survey participants were at the time using “electricity with a 66.1% sustainable power mix” -mostly hydropower, followed by solar, and wind-. This is in line with other studies like the one from Nasdaq<sup>xviii</sup> and re-published by Deloitte Consulting firm<sup>xix</sup>. And this makes complete sense: if we analyze



from a market cost-efficient perspective, the main two costs any Bitcoin miner has are: electric power and computing power. So, from a marginal cost perspective, on both areas the miners will look to be close to zero marginal cost. This means looking to find existing or novel new ways to obtain energy power close to zero cost -and the more the Bitcoin increase its value exchange in the market, the more incentives will be for people and companies to look and develop alternative and new ways to obtain energy to cheaper costs-. Proof of work is actually our new global incentive for people and companies to be thinking on how to achieve this. In my experience as an entrepreneur and presenting PhiEconomy's cryptoeconomics theory of value and money, I came across of other entrepreneurs who were thinking how to achieve this. And as one example: one day, one person approached to me after my talk on a university and told me about his innovation: a dynamo that can be plugged into the running water at home and utilize that force to move the dynamo -returning the water back on the other side with a filter which even make it 100% clean- to provide energy to an ASIC miner<sup>xx</sup> for Bitcoin mining. This anecdote is the result of this additional incentive that the design of how Bitcoin works. On the other hand, Banks and the classical financial system do not have any incentives towards renewable energies. If we think how they could get to near zero marginal costs, one of the higher costs are human labour -so instead of trying to get a cheaper cost of energy, those will be reducing number of workers-. Electric consumption -although some reports<sup>xxi</sup> calculate those digital processes on banks to provide home banking services represents up to 2.5X more consumption than the cryptocurrencies, the impact of those costs is so minimal that they do not need to find near zero marginal cost energies-. If we add the consumption of bank's branches and ATMs around the world, estimation brings that energy consumption could surpass up to 50x the one from cryptos.

Under the presence of a DAO system, the notion of labour -and how we understood it for hundred of years- become obsolete. There is no more the need to be "employed" by a patron nor a company or enterprise. There is no more the notion of a "labour market" where we sell ourselves as the "product". Anyone can freely join a DAO -without the need to ask for permission- and do the task needed to help achieve the goal of this organization -in the case above, maintain the Blockchain technology working-. This can address the job problem.



The second big implication is in terms of money and its genesis. Every time we use Bitcoin cryptocurrency, we know for fact, it was issued as a reward for miners who secure the confidence in this transactional system. So, Bitcoin is the first type of currency with a previous value & clear and unique goal: maintain a decentralized global system of payments. Again, Bitcoins are being issued by each block of approved/verified transactions recorded on the Blockchain. So, this cryptocurrency is the incentive that allows the Blockchain to work without a centralized company behind it. This also challenges and makes obsolete the current notion of a “company” or “institution”. The way we have been organized for more than two thousand years is connected to the way we plan battles & wars<sup>xxii</sup>. So there should not be any doubts in order to change the way we would like to achieve sustainability and inclusion, a change is needed in the way we organize to create value and what we consider as valuable as well.

This new vision on how we can organize ourselves -without the old concept of how organizations and institutions were designed and having the hierarchical and pyramidal way of functioning; also working as intermediaries between the value being created and people who can generate it- in a more horizontal or flat way; in addition of decentralizing money creation based on a previous value or purpose should be an eye-opening for economist, politicians and all the people alike who thinks/expects for a change.

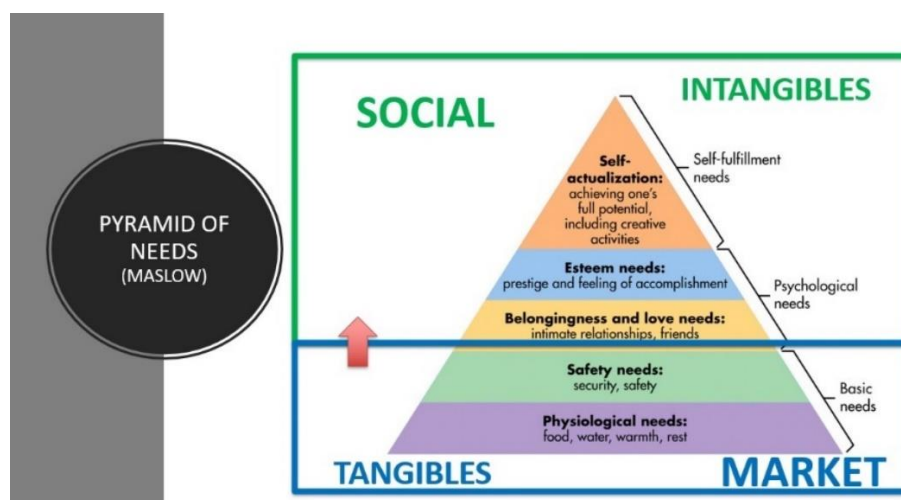
A third big implication is about surplus. On this new type of mechanism, money issuance represents -at the same time- surplus distribution and stock options realization. This is an inclusive system as any person is entitled to participate, the rewards are equals to anybody in the world -it does not have differences on territories, gender, skin colour or any other-. Having a global decentralized system, opened to anyone in the world -with equal opportunities to anyone-, where the rewards/incentives have no differences -and the growth in value attracted by those incentives created are distributed evenly- could transform and make evolution towards a more inclusive capitalist system.

With decentralization, we give back the power of decision and liberty of choice to people. We can create global communities behind a shared purpose and provide the tools for people to facilitate achieving that goal at the global level -at exponential speed, never seen before in a hierarchical and nation-based way of organization-. Ideally moving to a future state of a distributed power where each person in the globe is a node of value.



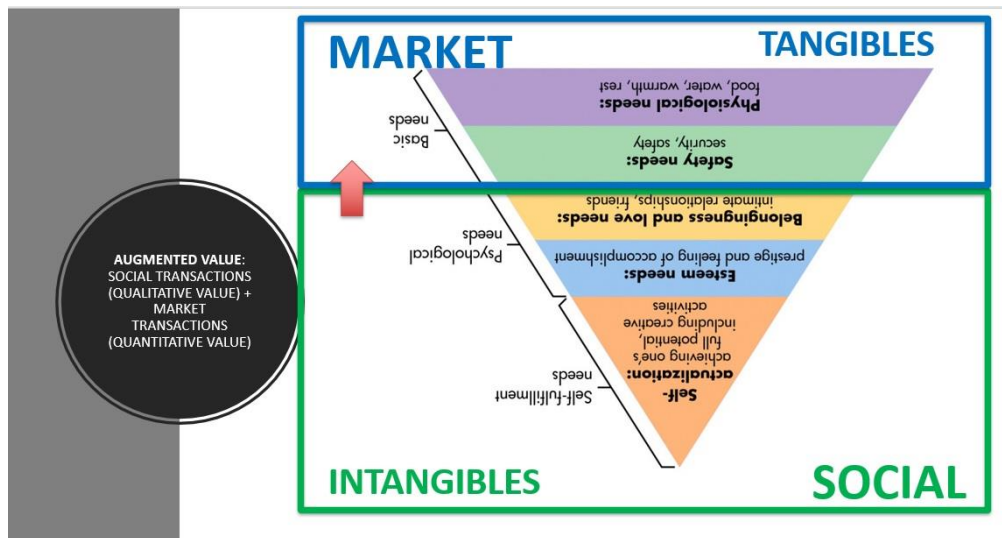
So this new concept of money issuance as an incentive to make people join a global community behind achieving a clear purpose -connected to one's individual values but in the aggregation of thousands, or perhaps, millions of people around the world sharing the same goal-, really challenge us and question ourselves -especially economists- on: is there a real substance or a previous natural value that transfers or are the reasons for why the money should be issued? What are the reasons for money issuance?

If we look at Maslow's pyramid of needs<sup>xxiii</sup>, the market environment fulfills -as discussed previously- the basic life's needs -and what Keynes said we would be going to be free of working to generate those by 2030-. These are the tangible assets for our lives. But on that pyramid, all other needs are the intangible assets -psychological & self-fulfillment needs-.



So, either just for people who can secure their basic needs or are millionaires can move into the intangible's needs -once you have secured your basic's needs, one can think of its purposes on life & try to achieve self-fulfillment, otherwise we are busy during the day trying to get our basic needs satisfied-. And within our system, the government institutions we have created also try to secure or facilitate those intangible assets as well -depending on the vision on each nation-state and type of government at power-. Those intangible assets can be seen or achieved by social transactions -opposed to market's transactions-. This construction of value can be generated by those social transactions by people interacting and working together for self-fulfilling -but in the aggregated level can form the common or collective good-.

What if we change the way we organize this? What if the equation is reversed?



What if we consider of economic value not only the goods and services susceptible of being exchanged -via buying/selling- on a market environment, but we also add into the mix all the intangible aspects for a self-fulfilled life?

The main problem of this above is how we can quantify or monetize those aspects? How can we augment value?

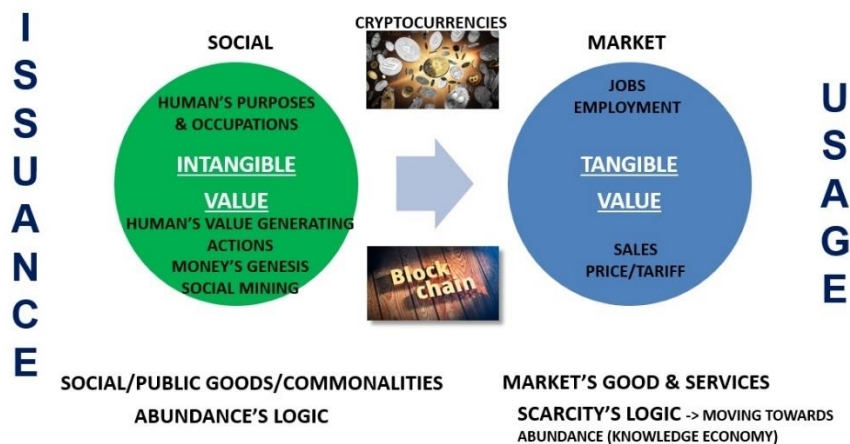
It is becoming clear again we need to change the way we issue money at the global level and get a substance for money -money being issued not anymore as a debt but as to connected to some kind of previous value-. We need to decouple monetary issuance from market's forces -jobs and goods production- and to attach it to something else.

Kathi Weeks on her book about the problem with work<sup>xxiv</sup> states very clearly the problem on Basic Income and the current notion of value, preventing us to not only address the psychological barriers towards a Basic Income acceptance; but also address the current mindset on productivism and that value is only inherent to what can be susceptible of being sold -therefore have a price or tariff associated to it-. She says -and I'll cite her here at full extent-: "To locate another way to publicize and politicize this contradiction and hail its potential antagonists, let me revisit the demand for basic income and two different explanations of its legitimacy. One possible rationale for basic income presents it as a payment for our participation in the production of value above and beyond what wages can measure and reward. Such an accounting closely follows a classic Marxist strategy: we can organize together as producers to demand our rewards as such. The advantage of this formulation is its legibility, the familiar terms on which it claims benefits for members of a society; one disadvantage, at least from the perspective of this project, is that it continues to build on productivist mandates, insisting that we are entitled to income on the basis of our contributions to production. So I want to consider an alternative: what if basic income were to be seen as income not for the common production of value, but for the common reproduction of life?". And moreover, she theorizes "First, the switch from production to reproduction as the relevant field of contribution

draws upon a Marxist feminist analytic that prioritizes reproduction as the point of entry into the terrain of social production. Second, the move from value to life as its primary product builds on an antiproduktivist logic of intervention in this case, one that claims that it is more than unwaged domestic work that makes capital accumulation possible, that this accumulation draws on much more for its conditions of possibility and, moreover, has far broader effects. 'Whereas the first rationale builds on capital's own logic, posing basic income as a reward for our productivity, the second represents more of a break with this familiar warrant, demanding not income for the production that is necessary to sustain social worlds, but income to sustain the social worlds necessary for, among other things, production. The virtue of the latter approach is that it invokes a broader notion of social reproduction than the wages for housework analysis typically offered.' So, Kathi's proposal -very clever- move away from the production discussions into a reproduction -similar as to what capital does- to secure production and productivity in the future -to continue reproduce capital-.

Phieconomy Cryptoeconomics theory of value propose another novel idea: augment our notion of value via including in the mix the tangible and intangible values for our lives and gluing them via technology -Blockchain, cryptography & algorithms-. Tapping in the learnings described above on what Bitcoin and the cryptoworld are teaching us -where those new cryptocurrency projects are experimenting with new cryptocurrency ways of issuance-. If we conceptualize the "proof of work" as a mechanism where we can verify specific human's actions towards achieving a common goal set by rules in a Community -where anyone is entitled to participate to help achieve that common goal, which is probably connected to its needs of self-fulfillment-, we can start building social systems of intangible values creation and reward those who freely decide to participate with cryptocurrencies issued by or due to helping achieve that value. Money issuance will work as a "certificate" of a work done -at the individual level- to help conquer the common goal of that Community -form as the global level under such value-.

## AUGMENTED VALUE: SOCIAL + MARKET



So re-signifying a centralized process -by nation state- which is only looking to reproduce capital and generate more consumerism, erodes the planet and exploit humans and other species at will; we can start to build a new decentralized global system with pillars on full self-life fulfillment, common goods generation, guaranteeing equality & inclusion and an integrated view on humanity and its environment. Economic science got confused about the two spheres for money: the genesis of money -why it should be issued- and the usage of money -what is good for or where its value can be utilized-. Blockchain is the glue to connect/unite these two spheres, via leveraging mathematics and algorithms, and being administered by Global Communities -under the DAO way of organization-.

Platforms like Ethereum<sup>xxv</sup> facilitates the usage of the Blockchain verification process to other cryptocurrencies that need to utilize this type of process as a service -therefore the mining of those cryptocurrencies can be done by other purposes than just maintaining a global payment verified system-. This was key in the evolution of this concept and expected from this PhiEconomy's theory perspective. Others followed later and being now a common process for any nascent new blockchain related project. Central role to this is what we call today "smart contracts"<sup>xxvi</sup>, which facilitate a process where a new cryptocurrency - under its own conditions to be issued, based on the Community of value promoting it- can be created as a new layer over the Ethereum Blockchain platform. Therefore, Ethereum's miners verify the transactions done on any of these new cryptocurrency systems utilizing its services.

So we can plugin now Sustainable Development Goals on that green sphere of money genesis and issue money at the global level sustained by people/companies helping to achieve those global goals.

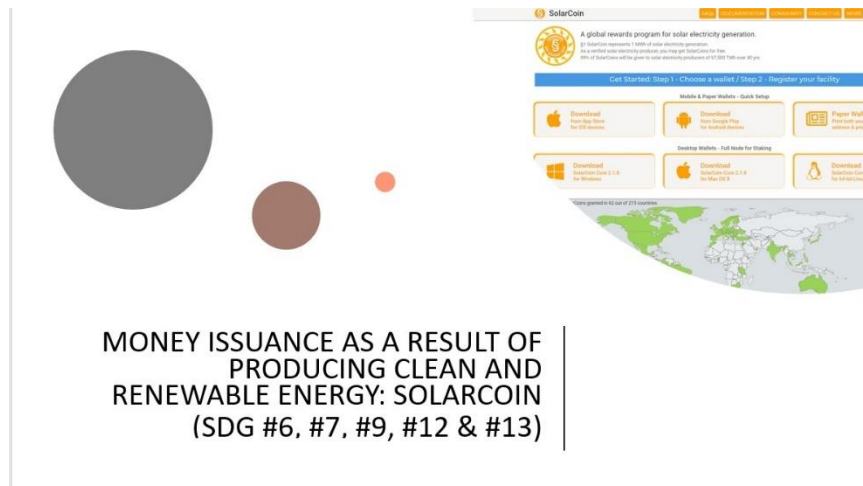




And this vision is materializing on different initiatives at the global level.

Solarcoin<sup>xxvii</sup> system is incentivizing a solar-powered planet. Solar energy is now the cheapest fuel in over 150 countries. They want to make it free<sup>xxviii</sup>.

Solarcoins are distributed as a reward to solar installations. When the value and price of a SolarCoin exceed the production cost of the energy, it becomes effectively free – an event they call the **Solarity**-. Their goal and 40-year mission since 2014 is to incentivize solar electricity production by rewarding the generators to reduce the cost of electricity production. Solar energy is now produced at below US\$12/MWh on some parts of the planet, and the cost keeps dropping. SolarCoin builds a foundation/pillar for the global energy transition by rewarding solar producers with an energy-referenced currency. The monitoring system sends generation to the SolarCoin Foundation, who in turn sends SolarCoins to the claimant's wallet at a rate of 1 SolarCoin per 1 MWh of verified electricity production. Therefore, Solarcoin works in a similar way to Bitcoin: there is a previous task -solar energy production- to money issuance. Every time someone uses a solarcoin cryptocurrency, its value is backed up by 1MWh of solar energy produced before some place in the world - helping to offload energy consumption from centralized and high-concentrated fossil fuel providers-. It is a cryptocurrency with a previous value attached to United Nations Sustainable Development Goals. Anyone in the world, with a solar panel can claim these rewards. These solarcoins can be traded for government currencies on cryptocurrency exchanges or spent at businesses that accept them.



Solarcoin whitepaper<sup>xxix</sup> One other advantage of this reward mechanism is becoming obsolete the concept for a “tariff” -which is making for big groups of people around the world to access energy-. If you have a system at home which produce renewable and clean energy for you for free, this can advance the concept of zero-cost energy for humanity in the next few decades -which can be a turning-point for any species by overcoming another big hurdle in nature: be non-dependent on the energy sources or have “abundance” of energy-. There will be no limit for sustainability and expansion.

Let’s take another example: Curecoin<sup>xxx</sup>. Another variant -or to put it on different words: how to apply the “Proof of work” concept to other incentives mechanism- of how Bitcoin is being mined. This is a protein research-based proof of work system. A computer -instead of using brute force in trying to get bitcoins and verify transactions- do a research -helping the BOINC scientific platform- and computer’s owners get the coins. With light weight PURE Proof of Stake<sup>xxxi</sup> Curecoin is designed so that 99.9% of the electricity that is used is dedicated to medical research processing during the mining process. As they put it on their mission: “Curecoin aims to increase the maximum potential of Distributed Computing Networks (DCN) around the world that are searching for important answers to medical, scientific, and mathematical problems by incentivizing the donation of computational resources, such as GPU’s and CPU’s. Incentivization is done through the creation of a unique blockchain which rewards this research. Since our inception in 2014 the Curecoin DCN team has grown to produce more than half of computational power for the largest research based DCN on earth, Stanford’s Folding at Home project (now part of WUSTL). Some estimate the Curecoin team produce as much as 45 PetaFlops of computational power, completely dedicated to research. In comparison, USA’s 2nd fastest supercomputer, IBM’s Titan, only produces 17.6 PetaFlops nominal and 27 PetaFlops at peak, 2-4 times slower”. Curecoin is a cryptocurrency incentive to expand the reach of Folding@Home which looks to research and find the cure of several diseases associated to cell deterioration.

33M+ Work Units Processed

Highly compatible

Easy to Use

Protein Research Based Proof of Work

Your computer does the research  
You get the coins

CURECOIN

Start folding now

How It Works

99.9%+ Energy Efficient

With light weight PURE Proof of Stake Curecoin is designed so that 99.9% of the electricity that is used is dedicated to medical research processing during the mining process.

Download Wallet

Welcome to The #1 Folding Team on Earth - Curecoin

Better than the rest...

MONEY ISSUANCE AS A RESULT OF CONTRIBUTING TO THE SEARCH FOR DISEASE'S CURE : CURECOIN (SDG #3)

SDG 17  
SDG 16  
SDG 15  
SDG 14  
SDG 13  
SDG 12  
SDG 11  
SDG 10  
SDG 9  
SDG 8  
SDG 7  
SDG 6  
SDG 5  
SDG 4  
SDG 3  
SDG 2  
SDG 1

<https://www.upfcoin.org/>

UPFcoin<sup>xxxii</sup> is another Community-based initiative that rewards plastic reductions to tackle plastic pollution. It is a community validated certification to verify the disposable plastic reductions made by companies in a traceable way. Each person in the world consumes 45kgs of plastic per year on average. 42% is packaging (Geyer et al, 2017). Of all the plastic ever produced, only 9% was recycled (Geyer et al, 2017 -until 2015-). 11 million tons of plastic end up in the ocean each year (Jambeck et al. 2015). UPFcoin Community affirms “we need tools to give value to plastic reductions and align incentives in the system towards an unplastified world”. Each UPFcoin represents one (1) TON of plastic avoided. What is the “proof of work” for UPFcoin? Companies around the world producing goods utilizing plastic can demonstrate -via buying orders per year- that they are consuming less plastic each year into their production processes - therefore helping to “unplastify” the planet-. This is done through a certification process on a network model. For every TON of plastic effectively avoided, the company receives one (1) UPFC -UPFcoin-, which equates then to one (1) TON of plastic avoided. This is a project we have helped to design and incubated from the PhiEconomy Global Movement -based on this new theory of value-. We calculate when 1 UPFC value of exchange exceeds 1 TON of plastic, we are going to start reversing the ratio of usage of plastic in industrial processes at the global level.

UPFcoin

We need tools to give value to plastic reductions and align incentives in the system towards an unplastified world.

Our solution  
**A network certification model.**

Unleash the power of a **global community** that rewards plastic reductions to **tackle plastic pollution**

UPFC is a community validated certification to verify the disposable plastic reductions made by companies in a traceable way.

Each person in the world consumes 45kgs of plastic per year on average. 42% is packaging.

Of all the plastic ever produced, only 9% was recycled.

11 million tonnes of plastic end up in the ocean each year.

MONEY ISSUANCE FOR UNPLASTIFYING THE PLANET (SDGs #3, #6, #9, #11, #12, #13, #14 y #15)

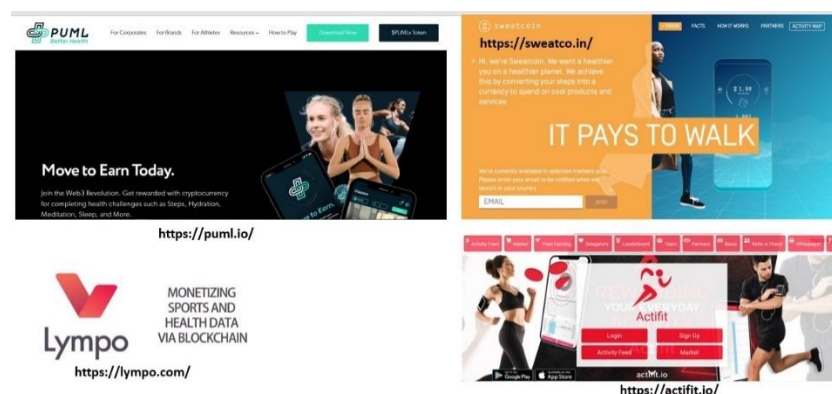
<https://www.upfcoin.org/>

A Learning coin would be, at not doubt, another key milestone to be able to take out of poverty a large portion of the humankind and when they need the most: at very early age -boys, girls and adolescents-. And the implications will not be only at the economic level: this would mean inclusion as those groups will feel they are part of the society and the value they are creating while learning, it is being recognized by the society at large. This is an idea and a concept we started to work with different groups more than six years ago, and the reality is confirming this is not only possible -to build a “proof of work” for learning- but also something it is being experimented in different organizations and initiatives, such as the IMF & World Bank “learning coin”<sup>xxxiii</sup>, UNESCO Bangkok Learning coin<sup>xxxiv</sup> or ExtraCredit<sup>xxxv</sup>. There is much to explore still on this area, but the thinking and experimentation already started.



EXTRACREDITS – MONEY ISSUANCE FOR LEARNING (SDG #4, #8, #10 & #11)

Initiatives like Sweatcoin<sup>xxxvi</sup>, PumI<sup>xxxvii</sup>, Lympo<sup>xxxviii</sup> or ActiFit<sup>xxxix</sup> are projects leveraging another type of proof of work mining based on human body exercising. Even Microsoft has patented a proof of work technology based on human’s body movements<sup>xl</sup>. The concept of proof of work applied towards human activities that can help prevent numerous types of diseases will help us to address SDG #3 and drive down the health system increasing costs -saving money- around the world -making difficult health’s access to most of the global population- and at the same time have happier people. These initiatives integrate artificial intelligence, mobile-app development, blockchain technology and cryptocurrency proof of work mining to deliver a solution to the global health problematic.



MONEY ISSUANCE FOR EXERCISING (SDG #3)



Another area which got great experimentation since the beginning of the altcoin -alternative cryptocurrencies to Bitcoin- was the recycling. Initiatives like PlasticBank<sup>xli</sup> (Canada), Biota (Germany), Plasticoin (Uruguay) or Jellycoin<sup>xlii</sup> (Argentina) are paving the way to build a global proof of work as a mining mechanism to incentivize recycling activities.

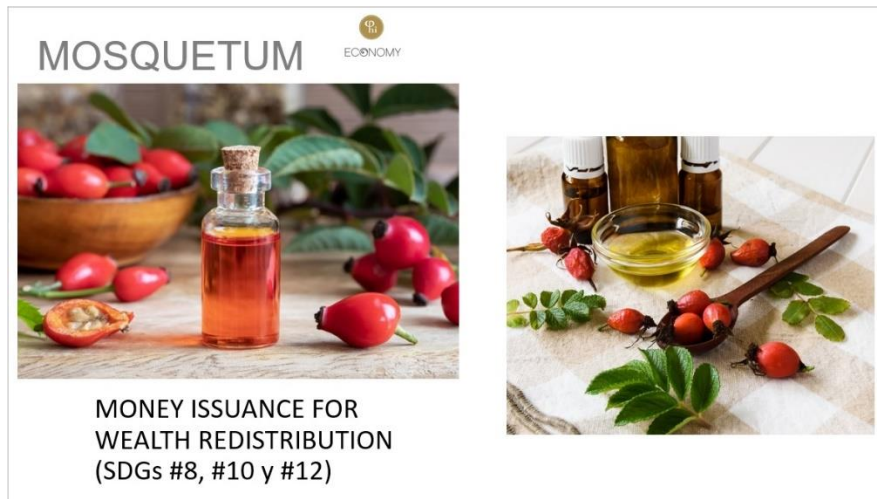


So “proof of work” as a concept for unburying the intangible values that make up our lives and at the same time help to build the “common good” via aggregating each person activities and efforts at the global level can be the key in the next few years and decades to build that sustainable, inclusive, and collaborative global economy. It is basically moving out from the notion of state-nations that control & punish wrong behaviors into a new decentralized global system that incentivize self-fulfillment activities via monetizing them. Most of the global population does not have time to do these activities and those are key not only for each individual human but also to build up the common good and the right environment for us as humankind and other species to thrive. The new and vast range of proof of works can be the key to change our notion of what we understand as “work”. Moving from the salaried-wage workers -performing activities based on a market-environment for a patron- towards human’s-based self-fulfillment activities that will bring United Nations Sustainable Development Goals closer to a reality and feel we are all interconnected contributing to make up that reality we most of us want and need urgently to start building.

This new vision on work -incentivizing and rewarding individual’s-based activities for life’s purposes- makes also obsolete the old notion of the work being something negative or that most of us “suffer” -draining our life’s time-; and connect it with our life’s purposes. These are “jobs” we do not need to retire from -these are activities we can perform during all our lives- so it will free up most of nation-stated budgets on social support -old adults, people left behind from the job’s market- and at the same time, we all feel part of the solution and not be “part of the problem” or a “burden” to the rest of the society. This would be trully a way for inclusiveness and global-community building. This can address the job’s problem described at the beginning of this paper.

And there are other ways of deploying crypto related processes to assure equality and inclusion for the economic processes at the global level.

Mosquetum<sup>xliii</sup> is another PhiEconomy related initiative, based in Bariloche - Argentina- where wealth redistribution is the main focus for workers harvesting the “rosa mosqueta” (Spanish term) -a local fruit used for oil, marmalade and other type of byproducts-. The problem tackled was an unfair distribution on the surplus this generates with companies producing those goods and a local DAO was created and utilize a proof of work to distribute Mosquetum coins by each TON of rosa mosqueta being harvested -later the produce of those recollection will be sold and paid by buyers with those coins, therefore a coin’s market with demand is created for those tokens-.



GQUAL coin<sup>xliv</sup> is another initiative started from PhiEconomy’s movement to tackle the problem on gender’s violence and the need of insertion of women on the job’s market. The main goal is to provide economic and financial freedom to women from a very early age -so the ability to be non-dependent of a stream of income could be the key to free choices on how to handle their lives-. GQUAL coin leverages on its proposal the Minimum Expected Income or “MEI” - PhiEconomy’s proposal for a Basic Income and I’ll touch base in more detail later on within this paper on how this works-. GQUAL coin tap into or rely on the recognition and acknowledgement of the unpaid work and care economy intangibles that make up most of the women’s contribution today and throughout the centuries or millennia to the society and something the CEPAL quantified in Latinamerica -as noted before on this document- as representing about 20% of the GDP in the region.





#### OBJETIVOS DE DESARROLLO SUSTENTABLE

Las desigualdades de género son un obstáculo para el desarrollo sostenible. Organismos internacionales confirman las brechas y desventajas entre las mujeres y varones. Sin embargo, estas desigualdades se trasladan a toda la sociedad. El fortalecimiento de mujeres impactará en el crecimiento económico local y a partir del efecto multiplicador en otras mujeres de su entorno. Cumpliendo

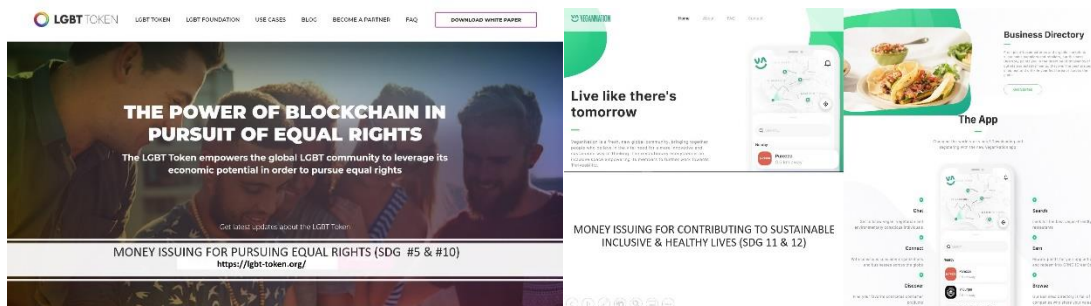


MONEY ISSUANCE FOR ECONOMIC & FINANCIAL FREEDOM FOR WOMEN (SDG #5 & #10)



<https://www.gqual.io/>

And on this direction, related to the defense of right from groups excluded from the current notion of economic value or being a resource or an asset that can serve well for our productive processes, we can find different global communities formed around the world, leveraging these ideas seeded on PhiEconomy's new regenerative cryptoeconomics theory of value and money, where they protect their rights and at the same time create the conditions for human and planetary progress. As examples, I can mention LGBT Global Community and its initiative: the LGTB token<sup>xlv</sup> that seeks to create a cryptocurrency supported by the global community to allow LGBT excluded people from the job's market to have a support behind a token which is empowered and grow over time based on usage from LGBT related and supported community at global scale. Vegan Nation<sup>xlvi</sup> is a global-led community project uniting vegans around the world -estimated in 600 million- where a cryptocurrency can be the hub to condense vegan's values and usage to promote the healing of our relationship with other species -and defend their rights- as well as building a human's healthier lives.



EthicHub<sup>xlvii</sup> is an initiative started in Spain a few years back with a focus on helping unbanked communities in Latinamerica. Mainly harvesters and coffee producers. Throughout the years and with different innovations they were creating -based on experimentation and the experience gained-, they were able to create and leverage a new type of cryptocurrency -called Ethix- which is crucial now to expand and secure a fair interest rate and surplus distribution. Ethichub is pioneering what is call today regenerative finance -connecting people who want to help driving a change in the world with people who need that support and at the same time provide low-interest rates for people in

countries where the access to finance is very difficult and interest rates from non-bank lenders could go up into the three-digits cap for a year-. Regenerative finance are part of the Decentralized Financial -DeFi- cryptoworld that can help to decentralize the decisions on loans and M1, M2, M3 creation -around 90% of money created around the world-, applied from a global perspective -not anymore by nation state- and within the hands of global citizens -and not bank institutions-. Although is not a focus for this paper, happy to expand the considerations on how the DeFi cryptoworld can democratize and give power back to the global citizens to decide how we want -together- determine the best use for the financial aspect of money creation -and the destiny of those funds-.



**Ethichub**

**Connecting people. Harvesting wealth.**

Create positive impact by investing in small and profitable farming communities. Mutual benefit, positive impact.

We require loans with interest if we want to keep living of our coffee

Oralia Morales  
COFFEE COMMUNITY, CHAMAL, MEXICO

<https://ethichub.com/>

**15%**  
Interest rates on your investments\*

- Very competitive return on your investments of up to 15%. Invest from as little as 20€.
- Safe and fast transactions by credit card or wallet.

**INVEST NOW**

\*Receive up to 15% annual interest rate on your investments, starting when the project is fully funded.

**MONEY ISSUANCE FOR DECENT WORK HELPING UNBANKED (SDG #8, #10 & #1)**

Other important areas where technology -and especially, exponential or quick expanding technologies such as blockchain, artificial intelligence and others- did not enter or being applied due to a lack of incentives on our global economic system -as those “social” based areas do not participate in a market-environment related logic of creating goods and selling them- are Democracy & Justice.

Democracy Earth Community<sup>xlviii</sup> and Kleros Protocol<sup>xlix</sup> are seeding and leveraging blockchain and cryptocurrency processes to empower, decentralize and improve the way we think about democratic processes and justice at the global level -my colleagues, Santiago Siri & Federico Ast, from the Net Party<sup>l</sup>, where I get to know them when we started to explore how to apply new technologies to democratic processes back in 2012 in the City of Buenos Aires, Argentina; creating an open source software available globally (called DEMOS), later used in some Latinamerica’s countries and also during the Arab’s spring<sup>li</sup> in countries like Tunisia to vote online. We wanted to have a tool for citizen’s participation on the legislative chambers, voting each bill introduced and have our representatives voting according to citizen’s will on this sort of “online agora”-. Democracy Earth even worked on a possible “vote” token to incentivize the democratic participation of citizens around the world -miners of the vote token would be citizens participating not only on their local elections every two or four years, but also being rewarded by an active participation in a day-to-day politics on submitting bill projects to their legislations and voting on each bill project being sent to parliaments-. Kleros Protocol is helping to solve a global

justice gap -I've helped Federico to start this project back in 2014- where people buying digital services from different countries online -where the economic amount is small and there is no way to access or submit the disagreement to the justice of a specific country- can have a global forum to resolve their disputes. Jurors in the platform -via a proof of work- mined the Kleros cryptocurrency via juror's related activities, performed in the platform.



Climate Change and our relationship with mother's earth are also a focus by online communities deploying these technological processes. There are initiatives like Single Earth<sup>lii</sup> -based in Europe- and GBM Token<sup>liii</sup> -out of Argentina- which look to protect the lands from deforestation and at the same time regenerates and make a greener world. Cryptocurrencies mined by these processes are securing square meters of land -either native forest & jungles or even the goal is for landowners to stop seeding their farms and regenerate the native nature those areas used to have, when the exchange value of the square meter token can supersede the value of the seeding of grains- and start reversing the current process of land deforestation.



A political party in Germany proposed to create a proof of work for a cryptocurrency that can be mined via eliminating greenhouse gases from the earth's atmosphere. This cryptocurrency called ARBIL<sup>liv</sup> did not see the light yet but demonstrate the impact of how proof of work can be used and applied as a concept at the global level to help resolve problems that seems to be impossible otherwise. With this type of incentive, new companies can be born to develop global infrastructure -or small devices spread out across the globe on households, fuel-based cars, industries, etc.- where the gains & revenue comes from the mining of those devices of ARBILs -and not the produce of goods and services being sold in the market-. ARBIL's proof of work is yet to be developed.



As seen so far on this paper, we need to focus on different and concurrent solutions to our great grand challenges of our times. Recycling plastics but also incentivizing to use less of them -due to the cheap price it might have compared to other materials-; incentivize the usage of renewable & clean energies -but at the same time look to promote a new thinking of how to stop the daily damage we do with the gases we send to the atmosphere-. This is what a new design on the economy and how we deploy decentralized money issuance at the global level, through Communities and automated mining processes, in the hands of activities performed by people -aka global citizens- can re-shape our reality in the next years and decades.

So, the open question now is: what is the role & impact of a Basic Income in all of these processes? What a Basic Income can promise and secure? And for this, let me introduce in the next section the “Minimum Expected Income” -MEI- to shed light onto it.

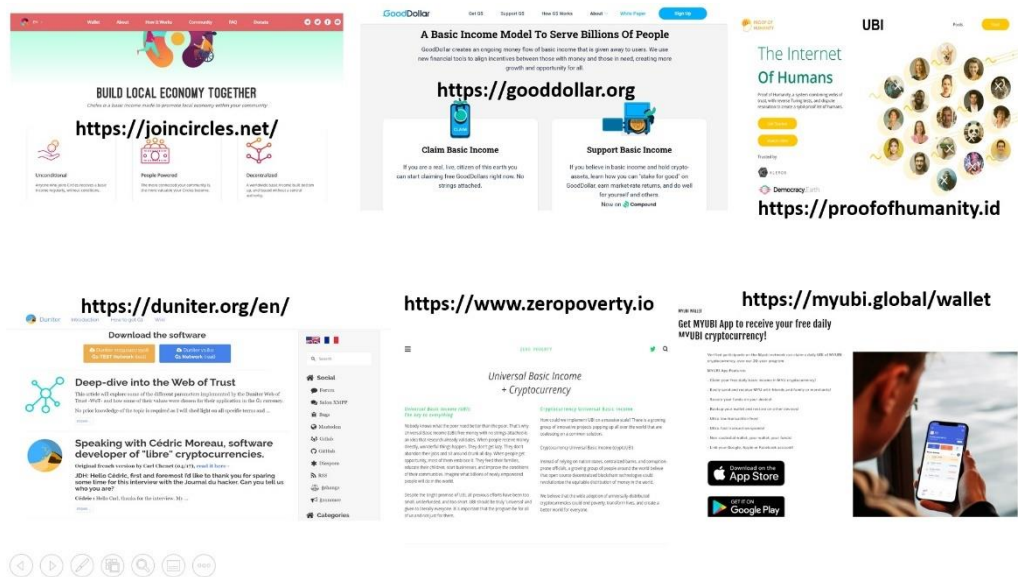
### **Minimum Expected Income -MEI-**

Before looking into the specifics on what PhiEconomy regenerative cryptoeconomics theory of value proposes with the MEI, allow me to introduce here what the cryptoworld has been deploying & experimenting in terms of a Basic Income.

Pioneering initiatives in regards of a Basic Income like Circles<sup>lv</sup> or Dunitar<sup>lvi</sup> - started around 2010 by my crypto-world colleague from France, Stephane Laborde, whose relative theory of money<sup>lvii</sup> has profound implications to the way we see each other & with the social interactions we have everyday in our circles- explore with different approaches how a Basic Income can be leveraged without the need or participation of a nation state. More recently, new projects like Zero Poverty<sup>lviii</sup>, MyUBI<sup>lix</sup> or Good Dollar<sup>lx</sup> are tapping into money issuance processes to distribute the new money created into the hands of the people with no strings attached -by just belonging to their communities-. Special note is for the new project running on the Ethereum Blockchain, called Proof of Humanity<sup>lxi</sup> -again from my beloved colleagues Santiago Siri & Federico Ast, from the Net Party- which tackles two different problems at the same time: having a sybil-proof list of humans at the global level -this is key for the future of Web3 processes, personal identity anonymous security on the internet and a doorway



to handle in an egalitarian & inclusive way our economic processes- and a Basic Income provided to all humans.



All of these projects issue coins to members of their online communities. Each one is experimenting with different methods on the amount and time -even Duniter have an algorithm that looks into money's friction and life expectancy in order to define the daily amount to be issued to each person. As another example, Proof of Humanity issue one (1) UBI token per hour-. So, the all Basic Incomes included here work as the way on how each cryptocurrency is created but distributed in a decentralized way -directly to citizens-. So Basic Income is the mechanism for how those systems create money -on an egalitarian way- in the hands of the members of their communities.

## What is the proposal from PhiEconomy called MEI -Minimum Expected Income-?

To come up with this proposal, I have explored and questioned myself on some of the challenges I've identified, that may stop a Basic Income to be applied in all Nation States.

Those challenges were:

1. What is a Basic Income?
2. How we calculate it?
3. How we fund it?

In the answers to these questions, a MEI would fit as a potential solution.

Tackling the 1<sup>st</sup> question from above, a Basic Income might be the individual share of the total value being produced by the society at a given/defined time. As any person in the world is part of the global society and therefore not only participates in the value creation process -and remember what I've outlined as value within this document...we are talking here of augmented value vision, where we include the tangibles and intangibles of our lives, which also include

the relationships between humans, other species & the planet- but also is an integral part of it and needed for the value creation.

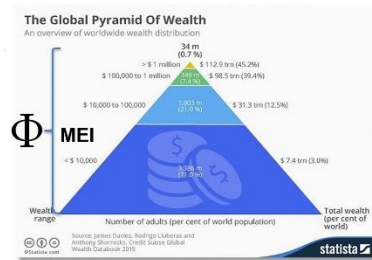
In connection with the 1<sup>st</sup> answer above, the 2<sup>nd</sup> answer -how we calculate it?- fits directly into how this individual share of the value produced by the society at a given time can be calculated. And for this we need a mathematical formulation, which will be turned into an algorithm -so this can work autonomously, without any human intervention- that can secure the process and execute a “proof of work” in order to “mine” the MEI. This proof of work I dubbed it “proof of need”. See below.

- $MEI_n = \frac{\text{Total Stream of money issuance + payments}_n}{\text{Total Participants in the System}_n}$
- $S_N = \text{Personal Stream of money issuance + payments}_n - MEI_n$
- If  $S_N < 0$  then MEI is executed

where MEI works as a balancer -for equality & inclusion- of the monetary fluxes, acting as a value redistribution autonomous system. Utilizing the anonymous mechanism embedded on the Blockchain & the crypto wallets, the system can calculate the money being received -from payments or money issued by the system directly to each individual wallet-, being sent to others -payments- and being on hold or stake in all the wallets -without knowing the identity of any participant in the system-. The money creation -money being issued directly from the system to the wallets- + money sent between wallets -payments- will explain the total value generated at a given period. The division/ratio of this total value on all participants -it is important to outline that each participant have a unique wallet- will provide the baseline to be reached as the MEI for each participant. With this baseline defined, the algorithm will check on the existence of crypto coins on each wallet -utilizing a standard valuation for all based on the current exchange rates- and analyzed if the proof of need should be executed - this means a certain crypto wallet is below the MEI threshold-. So, there will be solidarity money issuance for that period, for that individual crypto wallet – to make sure the income for that period reaches the MEI, so the issuing will be for the difference between what it has and the MEI-. The coins being issued to cover the difference to reach the MEI will be selected based on the monetary friction -obtained also from the coins movements & staking<sup>lxii</sup> on the cryptowallets- on each type of coin participating in the system -to make sure things like inflation or other economic problems do not arise-. This assures nobody is left behind and also if on any particular period, anyone who was having a higher than MEI income in the past, but have some financial problems, the MEI can be received as well -this will work as an insurance mechanism for everybody and also help to fill we are all part of the collective and the global community; and probably ease the resistance to a basic income-.



## MONETARY FLUXES BALANCE & VALUE/WEALTH REDISTRIBUTION VIA APPLYING THE MINIMUM EXPECTED INCOME –MEI-



- $MEI = \frac{\text{Total Stream of money issuance} + \text{payments}}{\text{Total Participants in the System}}$
- $S_w = \text{Personal Stream of money issuance} + \text{payments} - MEI$
- If  $S_w < 0$  then MEI is executed

And how we fund it? We do not need to rely anymore on taxes to support any of social support expenditures. Funding comes from the own monetary issuance - articulated multi-dimensionally with all the cryptocurrencies included in the system- and since this is a subsidiary process in terms of money issuance -we have to remember that each cryptocurrency is being issued based on a proof of work where participants are incentivized, and monetized human's-based activities connected in helping achieve U.N. SDGs-. So, most of Nation State Government activities -which needed funding before as well- can be taken over by these new DAO Communities. The need of collecting taxes from market-based transactions or salaried/wage jobs will go into a minimum -close to zero- by offloading those activities in Global Communities. And yet to be implemented, new contributions to fulfill the government expenditure needs can come from a % of the coins mined for the UN SDGs, which can come based on the geolocation of each cryptowallet -a 2%-5% contribution is the most logical for this purpose-. The remaining percentage of each coin mined can be distributed between the people within the system performing each task/activity and the DAO as an entity -to help maintaining any related cost-. Again a 2%-5% would be most logical for this purposes as well -so at the end of the day, from each coin mined with these processes, each global citizen will receive between 90%-95% of the total value generated-.

## ADVANTAGES FROM UTILIZING MONEY ISSUING BY SDG & THE MINIMUM EXPECTED INCOME:

Taxes are not needed to finance the Minimum Expected Income -it will be adjusted by money issuing through proof of need- as well as taxes can be eliminated gradually to companies & citizens. Government & State's spent is being collected from money issuing -a small percentage per citizen's coins-, based on citizen's residency/geolocation.



To finalize this paper, this is the way we can plug money creation to a substance we all need and secure habitability of our and other species on the planet through our economic, industrial, and social interactions and processes. And the basic income -MEI- is a perfect balancer to assure equality and inclusion within this system. Blockchain, Cryptocurrencies and the DAO type of organization are the glue and the keys to make this happens. This process already started with the Bitcoin in 2009 and we can drive it into this direction -or we can continue to replicate how everything is working today-. Technology is agnostic, its usage will depend on open knowledge and make sure everyone understands the benefits on using it on one way or another.

---

<sup>i</sup> Source: [dollar.daze.org](http://dollar.daze.org)

<sup>ii</sup> [https://www.ilo.org/global/research/global-reports/weso/2017/WCMS\\_541211/lang--en/index.htm](https://www.ilo.org/global/research/global-reports/weso/2017/WCMS_541211/lang--en/index.htm)

<sup>iii</sup> Forbes - Conference Board (2014): 75.6% of US wage workers with an income of 15,000 USD per year are unsatisfied with their jobs. 55.6% of US wage workers with an income between 55,000-75,000 USD per year are also unsatisfied with their jobs:

<https://www.forbes.com/sites/susanadams/2014/06/20/most-americans-are-unhappy-at-work/>.

According to a survey conducted by Nielsen Company for The Conference Board in 2012, fewer than half of all employees (47 percent) are satisfied with their jobs. (63% unsatisfied):

<http://www.businesswire.com/news/home/20160620005375/en/SHRM-FoundationGloboforce-Release-Research-Report-Creating-Human>. According to Business Insider -Deloitte's study on global jobs- 80% of salaried workers hate their jobs: <http://www.businessinsider.com/what-do-you-do-when-you-hate-your-job-2010-10> (2010).

<sup>iv</sup> <https://openknowledge.worldbank.org/bitstream/handle/10986/23347/9781464806711.pdf>

<sup>v</sup> John Maynard Keynes, *Essays in Persuasion*, New York: W.W.Norton & Co., 1963, pp. 358-373.

<sup>vi</sup> Kate Raworth, *Doughnut Economics*, Chelsea Green Publishing, White River Junction, Vermont, 2017.

<sup>vii</sup> CEPAL: <https://www.cepal.org/en>

<sup>viii</sup> Study: <https://www.cepal.org/sites/default/files/presentations/valorizacion-economica-trabajo-no-remunerado-hogares-cepal-2021.pdf> (Spanish version available)

<sup>ix</sup> Silvio Gesell, "Natural Economic Order", 1906, page 61.

<sup>x</sup> Phieconomy regenerative cryptoeconomics theory of value and money. Book "PhiEconomy's essential principles" (Spanish edition, Paperback & Kindle, Amazon, 2018. Published under Creative Commons license): <https://www.amazon.com/dp/9874260386/>. PDF format -Spanish edition, free download-: <https://raw.githubusercontent.com/alesew/PhiEconomy/master/Principios-Esenciales-de-Economia-PHI-Un-Camino-hacia-la-Abundancia.pdf>. Website: <http://phieconomy.org/>

<sup>xi</sup> Adjective. "reflecting or characterized by both local and global considerations", "of or relating to the interconnection of global and local issues, factors". <https://www.dictionary.com/browse/glocal>

<sup>xii</sup> Regenerative CryptoEconomics: <https://www.coindesk.com/business/2022/06/06/how-crypto-can-do-good-for-the-world/>

<sup>xiii</sup> Type of distributed ledger technology (DLT) that consists of growing list of records, called blocks, that are securely linked together using cryptography. More information available here:

<https://en.wikipedia.org/wiki/Blockchain>

<sup>xiv</sup> a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer. More information available here: <https://en.wikipedia.org/wiki/Algorithm>

<sup>xv</sup> Without people intervention and with the set of rules available to the public. This set of rules cannot be altered by anyone, providing certainty in the way Bitcoins are being issued. Anyone can calculate the amount of Bitcoin in circulation at any point in the past or even in the future. Can anyone calculate how many Euros, Dollars, Pesos or other national currency will exist in five years' time in the future?

<sup>xvi</sup> DAO: <https://www.investopedia.com/tech/what-dao/>

<sup>xvii</sup> Bitcoin Mining Council (BMC) research: <https://iconicholding.com/green-bitcoin-mining/> & Forbes: <https://www.forbes.com/sites/greatspeculations/2021/07/06/bitcoin-mining-uses-a-higher-mix-of-sustainable-energy-than-any-major-country-or-industry/?sh=6961d4064cc9>

- 
- xviii Nasdaq article: <https://www.nasdaq.com/articles/how-large-scale-bitcoin-mining-is-driving-clean-energy-innovation>
- xix Deloitte article: <https://action.deloitte.com/insight/1387/bitcoin-fueling-growth-for-renewable-energy-industry>
- xx ASIC miner: <https://www.investopedia.com/terms/a/asic.asp>
- xxi More reports and articles with Cryptocurrencies and Banking/Financial classic services.  
<https://techcrunch.com/2021/03/21/the-debate-about-cryptocurrency-and-energy-consumption/> ;  
<https://ark-invest.com/articles/analyst-research/bitcoin-myths/> ;  
<https://www.coindesk.com/business/2020/05/19/the-last-word-on-bitcoins-energy-consumption/> .
- University of Cambridge, Bitcoin Electricity Consumption Index: <https://ccaf.io/cbeci/ghg/index>
- xxii Strategeion (<https://en.wikipedia.org/wiki/Strategeion>) was a trapezoidal chamber located in the Ancient Agora of Athens, Greece, is known as the meeting room of the ten Strategoi of ancient Athens. And the word “stratēgós” is the leader or commander of an army, a general. The structure we use for organizations and institutions alike comes from these ancient concepts -we can related this to our current word “strategy” which mainly fuels any concrete way of design and operate for any of these entities, specially on the business environment- that are built on hierarchies and people who create the rules and rules -generals- over the others -soldiers-. The correlation to the hierarchy of patrons/owners, management & employees becomes very clear.
- xxiii [https://en.wikipedia.org/wiki/Maslow%27s\\_hierarchy\\_of\\_needs](https://en.wikipedia.org/wiki/Maslow%27s_hierarchy_of_needs)
- xxiv “The problem with work: feminism, marxism, antiwork politics and postwork imaginaries”, a John Hope Franklin Center book. Duke University Press, Durnham and London, 2011. Page 230.
- xxv Ethereum: <https://ethereum.org/en/>
- xxvi Smart Contracts: [https://en.wikipedia.org/wiki/Smart\\_contract](https://en.wikipedia.org/wiki/Smart_contract)
- xxvii Solarcoin: <https://solarcoin.org/>. Economic research on Solarcoin can be found here: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3281845](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3281845)
- xxviii Nick Gogerty: [https://grid.is/@ngogerty/tracking-the-solarity-the-path-to-free-solar-energy-rsV0fdoSS\\_exikHvaUSjUA](https://grid.is/@ngogerty/tracking-the-solarity-the-path-to-free-solar-energy-rsV0fdoSS_exikHvaUSjUA)
- xxix Solarcoin whitepaper: [https://www.researchgate.net/publication/314545542\\_Connecting\\_the\\_Blockchain\\_to\\_the\\_Sun\\_to\\_Save\\_the\\_Planet](https://www.researchgate.net/publication/314545542_Connecting_the_Blockchain_to_the_Sun_to_Save_the_Planet)
- xxx Curecoin: <https://curecoin.net/> . How Curecoin works?: <https://youtu.be/cqOEyHhXEYY>
- xxxi Proof of Stake: <https://www.investopedia.com/terms/p/proof-stake-pos.asp>
- xxxii UPFcoin: <https://upfc.io/home-en>
- xxxiii IMF & World Bank “Learning coin” initiative: <https://www.coindesk.com/markets/2019/04/15/imf-and-world-bank-launch-educational-blockchain-token/>
- xxxiv UNESCO Bangkok learning coin initiative: <https://bangkok.unesco.org/content/learning-coin-project>
- xxxv Extracredit was an attempt to build a global educational system around blockchain technology learning.
- xxxvi Sweatcoin: <https://sweatco.in/>
- xxxvii Puml: <https://puml.io/>
- xxxviii Lympo: <https://lympo.io/>
- xxxix Actifit: <https://actifit.io/>
- xl Microsoft cryptocurrency mining using body activity data: <https://patents.google.com/patent/WO2020060606A1/en> & <https://www.coindesk.com/markets/2020/03/30/microsoft-files-patent-application-for-crypto-mining-system-powered-by-human-activity/>
- xli Plasticbank: <https://plasticbank.com/> . One of the first pilot run by PlasticBank & Bounty Networks to demonstrate the power of this new way of incentivizing action was try cleaning the Manila’s Bay -the most polluted bay in the world-. They could remove within that pilot in only two days, three tonnes of garbage (Dec. 2018). Later on, following that success, in January 2019; 5,000 volunteers descended on the Manila’s Bay and removed 45 tonnes of garbage. Article: <https://www.bbc.com/future/article/20190613-a-simple-online-system-that-could-end-plastic-pollution>
- xlvi Jellycoin: <https://www.colmenaproject.io/en>
- xlvi Mosquetum: <https://mosquetum.com/>
- xlii GQUAL coin: <http://gqual.io/>
- xliii LGBT token: <https://lgbt-token.org/>
- xlvi Vegan Nation: <https://vegannation.io/>

- 
- xlvii Ethichub: <https://www.ethichub.com/en/>
- xlviii Democracy Earth: <https://democracy.earth/>
- xliv Kleros Protocol: <https://kleros.io/>
- l Net Party: [https://en.wikipedia.org/wiki/Net\\_Party](https://en.wikipedia.org/wiki/Net_Party)
- li Arab spring: [https://en.wikipedia.org/wiki/Arab\\_Spring](https://en.wikipedia.org/wiki/Arab_Spring)
- lii Single Earth: <https://www.single.earth/>
- liii GBM Token: <https://gbmland.io/>
- liv ARBIL proposal: <https://cointelegraph.com/news/german-politicians-want-to-fight-climate-change-with-blockchain-tech>
- lv Circles: <https://joincircles.net/>
- lvi Duniter: <https://duniter.org/>
- lvii Relative Theory of Money, Stephane Laborde: [http://vit.free.fr/TRM/en\\_US/](http://vit.free.fr/TRM/en_US/)
- lviii Zero Poverty: <https://www.zeropoverty.io/>
- lix MyUBI: <https://myubi.global/myubi-token>
- lx Good Dollar: <https://www.gooddollar.org/>
- lxi Proof of Humanity website: <https://www.proofofhumanity.id/> and Proof of Humanity Web3 app: <https://app.proofofhumanity.id/>
- lxii Staking meaning: <https://www.coinbase.com/es-LA/learn/crypto-basics/what-is-staking>