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Abstract

"Building *alternative* livelihoods in times of ecological and political crisis," and having it last long term, requires a corresponding *alternative* economy. (a practical example of how a Steady-State Economy could be structured)

This paper shows a working example of a Steady-State Economy (SSE) as a replacement for our current Economic Growth System (EGS). The first iteration of this paper was written for the cancelled *Degrowth & ISEE 2020: Manchester, Joint Conference* scheduled for before the Covid 19 pandemic. Consider that, since the pandemic began, how nobody who currently has the public's ear (politicians, political pundits, and many medical professionals) is linking this pandemic, or all the others that have come before it, to economic growth. The consistent message they've been broadcasting is that when the pandemic is over we'll get back to "growing the economy." It is the writer's opinion that the mechanism for all economic growth, whether a Paleolithic tribe or today's global economy, it is the same. Population and resource consumption rises, the natural world can't support either, the population either doesn't understand the problem, (or refuses to change), and then the civilization collapses either because of a shortage of resources or by disease caused by stressed lifeforms living in too-close proximity to the encroaching humans, or both. Over the last tens of millennium, small and large calamities of this sort have happened countless times. Think of all the thousands of ancient ruins now in the middle of nowhere. Most were once bustling centers of human commerce. This paper gives a very short overview of how our current economic growth system works, why it has led us to our own current calamitous precipice, and then gives a single working example of how a steady-state economy that wouldn't self-destruct can operate. Readers will then be able to see how, if humans adopted such an alternative economic structure, we would be able to live very different lives than now, choosing for ourselves satisfying alternative livelihoods and avocations.

- end of abstract -

Forward from the Author

If you are an ecological economist, a steady-state advocate, or any type of economic and social justice activist, you are in a minority and have chosen an almost impossible task. That is, trying to improve or replace the economic system the world works under. Some of you have borne criticism for your views from conservative, mainstream colleagues, or worse. For this you have my respect. Keep in mind as you read this paper that I am not a trained economist, and so the text will read differently. But I hope you will find some favor in my theme and ideas all the same. In my life I've been a successful businessman and in my later years I am a published fiction author. So, if my writing doesn't read like an academic's, at least it should be readable. Most of my professional writing has been futuristic science fiction. Because I really wanted to show how a successful future world could be reorganized, this led me to over five years of self-study on a wide range of economic topics. And it's what eventually led me to write a paper on ecological and steady-state economics.

I thank you in advance for reading what follows.

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Introduction:

It would be incorrect for devotees of our current economic growth model to describe the steady-state example I'm going to outline as a nanny state. It is the exact opposite. Neither is it authoritarian socialism, Marxism, communism, or any other 'ism' meant as a simplistic and negative epithet to be thrown against any alternative that may threaten today's prevailing economic growth regime. In fact, if readers keep an open mind and contemplate the entirety of this paper, they may come to agree that over 99% of the population; citizens, entrepreneurs, small and medium to large business owners, scientists, engineers, professionals, farmers, families and children, will be better off both materially and emotionally with such a steady-state economy than the economic growth system we all live under at present.

Those economic-growth boosters may also find it ironic that, for a steady-state economy to be successful, it must truly employ the same aspects, or check the same boxes, that our current severe capitalism falsely espouses as its universal strengths: independent thinking, the universal freedom to create, personal drive, reward for successful efforts, taking responsibility for one's lives and, of course, ambition. However, while the current economic growth economy espouses these and other universal freedoms, it then games the system so only a small financial elite enjoys the freedom to create, to control and to profit from the majority of enterprises. The opposite would be true in any successful long-lasting steady-state economy. There would be

security and opportunity for all. This is not just stated as a social justice issue. As I hope you'll come to understand as you read, it is actually essential for human civilization to survive.

What follows after this introduction is a short description of our current economic growth system and then a slightly more detailed description of the steady-state economy being put forward as an example. This paper will not, however, discuss how to make the transition from Economic Growth System (EGS) to a Steady-State Economy (SSE). They are two very different topics. Attempting a discussion of both at the same time will bog down discussing either. I will leave how a transition could happen to another paper and describe SSE as if it's already fully implemented.

To properly discuss this subject, one must have a background in subjects such as population growth, ecology, evolution, conventional economics and ecological economics. I write here on the assumption that those reading this paper have a background in these topics. This will allow me to spend the majority of this paper describing the steady-state example. When I do mention related subjects, it will only be briefly, and only to emphasize some point when deemed useful.

It is also not the goal of this paper to come up with *the* definitive and ultimate SSE structure. This paper's purpose is to go past the theoretical of why we need SSE and to give a concrete example. There have been a number of articles published by SSE proponents who have reported with pride how politicians have been convinced about the need for SSE. But what seems missing is an explanation of how such an economy could actually function. For after you convince someone of the *why* SSE is needed, if you don't tell them the how, you will soon see a blank stare in their eyes and your initiative to gain an active ally may be lost. And even when this or some other SSE example gains enough interest to start a larger conversation, it will not be

the final template. Once such a discussion gains traction, hopefully there will be an interest to debate, add to, alter, and hopefully improve the example. Maybe introduce a whole new example.

After this is accomplished, and even before, there is even a more crucial goal to organize toward. SSE proponents must work together to frame whatever conversation develops in such a way that it garners interest outside of academic and activist circles. This idea must be brought into the public realm. Consider that it took over fifty years for the public to be educated enough about ecology to create a critical mass of people who demanded action on the climate emergency. This means that associations like the ISEE, and all of its associate groups around the globe, Steady-State Groups, etc, must introduce and implement actions to convince the public to understand, appreciate and demand a steady-state economy. Many must be convinced that this is a good idea to build a similar critical mass as happened with climate change. And here's another irony. While climate crisis awareness seems to be having some success in slowing the worst of humanity's degradation of the natural world, the goal of sustainability cannot be fully accomplished until SSE is introduced. After all, slower economic growth is still growth. We are just putting off the inevitable. And apparently we don't have another fifty years.

Comparative **Definitions of Economic Growth and a Steady State Economy:**

Let's start with a definition of and Economic Growth System and a Steady-state Economy, and list some of the major aspects of each, ones that either make it an unsustainable system, or one that could take us into a long-lived healthy future.

Our current Economic Growth Economy (EGE):

What we call *Economic Growth* should be more accurately described as *External Economic Growth*. The word external is added because of the three major features which allow a growth economy to work:

1. The necessity of the continual consumption of virgin natural resources. Therefore it is external to what should be sequestered as the human economy.
2. The requirement that the human population must also grow. It's a well-known among economists that both resource consumption and continuous population growth is necessary for economic growth. Some may argue that lowering consumption or increasing recycling would allow continued growth, but these can only be short-term reprieves.
3. The third major requirement for EGE is that the population must work and consume almost exclusively within the EGE economy. No free spirits or free thinkers allowed. This is not a law, but the lack of the publics' understanding about how the economy they live in works is so wide spread, it seems to be a planned strategy.

Another destructive strategy EGS employs in our current economy, and one that is seldom discussed, is how, since the 1970s, national and international private bankers have taken over currency creation from all governments on the planet, and how they use fractional banking methodologies to create credit for loans to business, government and only for a small proportion of the population who possesses equity. Again, this is a large subject and I will presume readers in SSE already understand how banks make money, how the vast amount created goes into business, and the false promise that money spent running businesses will "trickle down" to the population through individuals working for businesses and to governments through taxes.

Trickle-down economics was never was true. It's part of the narrative or societal story that our population has tacitly or unconsciously grown to believe. Those versed in SSE will also be aware of how monetary shortfalls governments fail to get from taxes to fund social supports have necessitated constant borrowing from bankers to meet the promises given to citizens during elections. After decades of this national debts have risen in most previously wealthy countries to the point where funding for education, healthcare, infrastructure, etc., has been greatly compromised.

It must also be noted that one of the biggest arguments steady-staters hear while promoting economic reform is how EGS has raised millions of people out of poverty during the last seventy years, which is true. The reality is, however, this has been a short-term affect. Long term, the outcome of the banking system within EGS has been to centralize economic control, concentrating it into fewer and fewer international hands, while countries and individuals have become more and more in debt. This is especially dangerous now that we have extreme human overpopulation and are feeling the effects of worldwide resource shortages.

Another reason an economic growth regime cannot continue, even if humanity wasn't hitting the planet's ecological limits, is that technology is now in the process of putting the vast majority of citizens and subjects out of work. One example only; the job that employees the greatest number of workers on the planet is truck drivers. By 2035, almost all trucks will be driverless. There are thousands of other technical innovations that will make whole factories human free and take over much of the service sector. The current system will impoverish these workers while make an elite few the nobles of the mid-21st century. The old argument that the new reality of our economy will find other types of jobs for people, like it did after the industrial revolution, and then the computer revolution, does not stand up anymore. There will not even be

sufficient service industry jobs. Automation is even taking much of that over. Consider robotic waiters and bartenders as upcoming examples.

Another reality that is making EGS obsolete is the fact that human population growth is slowing and will soon be lowering. It's one of the short-term benefits economic growth has given by it creation of a large middle class between 1945 and now. Give humans a steady income and education, and birth rates naturally drop. This has turned out to be a natural phenomenon, and is borne out by the fact that all industrial countries are now seeing population rates at or below replacement rate. Worldwide, between 1950 and 1955, the average fertility rate (known as Total Fertility Rate TFR) was 4.95, or almost five live births per women. Between 2010 and 2015, the worldwide is about 2.4 per woman. That is a 50% drop in sixty years. This is a good thing, and it must go into negative growth rates for a few centuries, if the planet is to remain healthy enough to thrive over the long term. It is now only third-world countries who are being exploited, under the thumb of a dictator, and ones who don't have access to technological growth that still have growing populations. (Remember the phenomenon that a steady income lowers population, as it will be a crucial driver in any successful of a steady-state economy.)

To round off this extremely truncated overview of how an economic growth system works, directly below is Illustration # i. It is similar to what most first year economics students are given. Notice not only what is included, but what is not. There is no mention of money creation or resource consumption. The public is on a need-to-know basis, and that consists only of how they are to fit into the economy. Work and consume. They are to know little or nothing about the larger picture.

Illustration of How Our Growth Economy Currently Works

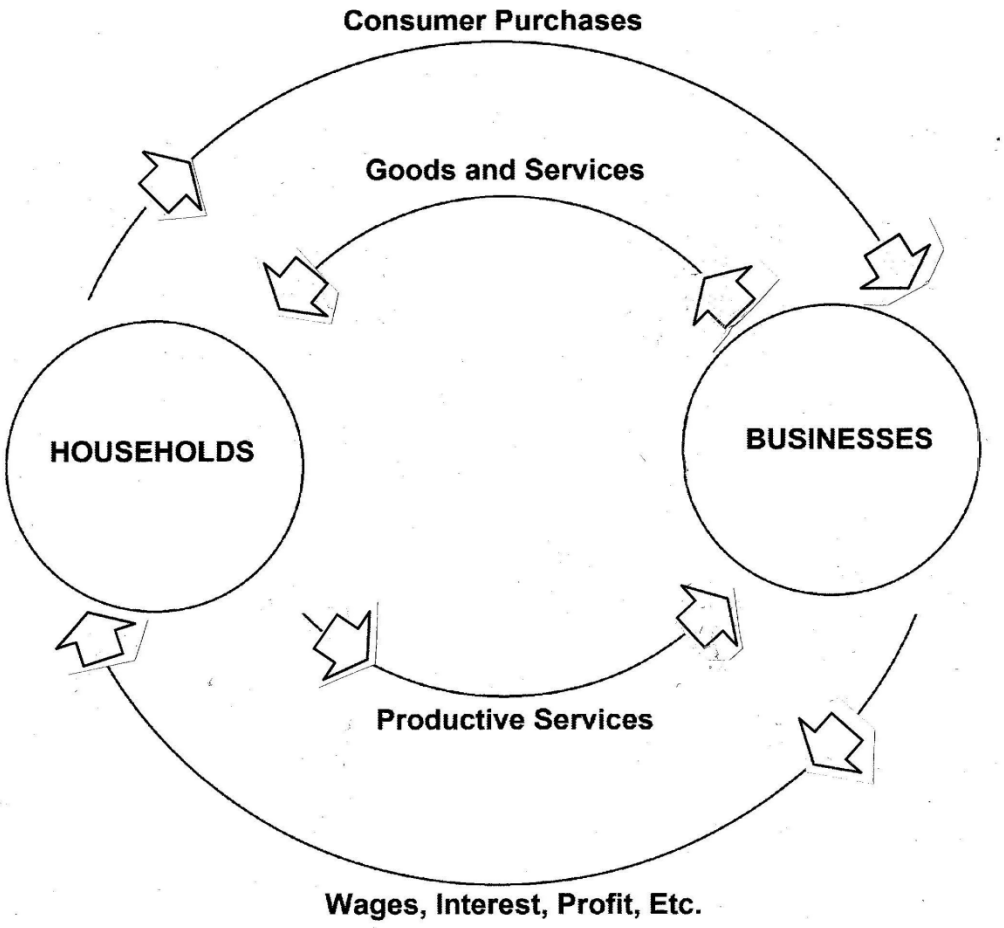

Illustration # i

So, according to the above, money *just is* and it flows back and forth between businesses and workers. As for natural resources, they are what neo-classical refer to as "externals", outside of economic theory, so they are assigned no value or place in the illustration. As well, there's nothing in the illustration's design to show there's any thought given to how to preserve resources or what happens when they disappear. The only thing consumers and first year economists are to understand is that the money goes around and around like it will never stop.

Taking all the above negative facts into account, and knowing that different profound innovations throughout history have prompted new ways of organizing economies in the past,

one can possibly learn to accept that the transition from an economic growth model to a steady-state model may be just the next step in the evolution of human kind's way of organizing a crucial part of our civilization.

What follows now is an exploration of how a steady-state economy could work.

Definition and short description of Steady State Economics:

While a key feature of an economic growth system is its need to consume resources *external* to human society, steady-state economics employs what could be described as *internal growth* within a human economy, separate and apart from nature. In the introduction it was eluded to how people born and raised in one system will probably find it hard to imagine living under another. With this in mind, the problem then becomes devising a methodology to take a person step-by-step to help them understand and navigate a shift in their thinking. To accomplish this, what comes first is a list the general criteria any version of a steady-state design must accomplish to last long term. This is followed by another list of structural real-world economic changes that will allow the separation that can accomplish making human consumption change from external to internal.

In a longer dissertation, I've gone on for multiple paragraphs or pages about each of the criteria and individual structural parts, giving a fair bit of background information. But here, again, I'm presuming the reader knows most of these topics. Hopefully my short description will suffice. (A link to the longer dissertation at the end of this paper to those interested.)

The Criteria (or objectives) for any successful Steady-State Economy:

Let me acknowledge beforehand my awareness that many will see these criteria as grossly naïve aspirations. However, consider that a similar argument could be made that the

belief that humans can perpetually consume natural resources and grow our population in unending economic growth is equally naïve.

The needed criteria for any Steady-State Economy are:

1) –The natural world must be allowed to heal and find a new long-term healthy balance separate from human beings. This means humans do not take more natural resources away from all the planet's other life forms above what would allow the planet to strengthen, heal and evolve without interference from humans successfully over thousands of years.

This will then allow all of humanity, and the entire natural world, to co-exist and thrive indefinitely. In a longer dissertation, I suggest that the objective of every economic decision humanity makes must allow our civilization to not to just survive but thrive for ten-thousand years into the future. This is the approximate time humanity began what could be called civilization with the invention of agriculture. This time frame is an update of the seven generations philosophy of some North American native cultures, where all societal decisions must be made for the health of the upcoming seven generations of their people. But I have updated it for our current crisis. Sometimes a poetic vision can help the public buy into a new idea.

2) - Lower human population to a number which is proven to allow the natural world to last in perpetuity, (or the ten-thousand years just mentioned). Consider how humans are the only lifeform on planet Earth whose population is not regulated by the environment around us, keeping our population down by die offs. Finally recognizing this, if humanity wants to thrive ten-thousand years and more, this mean humanity must take into its own hands the decision of what a steady-state world population of humans must be to keep the natural world, which supports us, healthy.

As for in what range the population the numbers may fall in, and without supporting any specific number at this time, consider that for several hundred thousands of years before humans invented agriculture, it is calculated that the 'natural' population of humans was between one million and fifteen million, depending on ice ages and other natural factors. Perhaps if humans could maintain a long-term discipline over centuries, and allow the vast majority of the world to remain 'wild', maybe that number could be substantially higher. In starting to give thought as to how much of the of the natural world should remain wild, consider how humans now utilize 70% of all arable land. This means if humans had a population of one-hundred million to three-hundred million, we would then only need to sequester 1% or 3% of arable land for our own use. Allowing the rest of Earth to become a wild garden for all other lifeforms to live and evolve is, in reality, the only way humanity is going to last.

One last point on population: when scientists of all stripes coordinate to calculate what a steady-state population number must be, that number must not be for a time when the world is in a stable period. It must be lower to cope with natural disasters. This segues into the next criteria.

3) – A steady-state economic system must be able to survive and support humanity's well-being through any natural disaster. The current Covid-19 pandemic, and developing variants, demonstrates how the current economic growth system cannot support populations or businesses in times of trouble. Currently in much of the world, if people cannot work, they cannot eat, unless the government borrows more money from banks, which causes more long-term problems. It's the same for millions of private businesses during the Covid pandemic. How can they remain viable if they cannot even be open? The fact that our economic system fails in times of crises is a sign it is not designed to work long term. This is perhaps the most current and salient argument for the speedy introduction of a steady-state economy.

4) -The elimination of a financial underclass. Again, while some may think this is being suggested purely for humanitarian reasons, it is actually a practical long-term necessity. It is impossible to create a long-term sustainable society when a percentage of the population goes wanting. The cost of keeping people under the control of elites is higher, both in resources and lost innovative potential, than allowing people to be the free agents of their own lives.

5) -SSE must be designed so all creative and ambitious people are able to participate and be rewarded for adding to society. Using the creative potential of all citizens to add revolutionary, or just incremental, improvements in technology and organizational practices already in existence, will require an open source type of legal system that cannot be blocked or controlled. This is in contrast to today, where one must be part of a corporate organization which owns the rights to an idea and those in charge can either block entrance to a new generation of players or take the lion's share of profits derived from the innovations of others.

As a single example of how such an idea could be enforced, take the innovation of blockchain AI technology. As late as 2018 it was being touted as a mechanism that could be used to enforce contracts and keep track of profit sharing. But in the few years since then, it has been taken over by big business and there is now nary a word about using it in open source platforms or to enforce contracts and business sharing agreements. Its powerful potential is now mostly being used simply to increase the profitability of business by reducing workforces and protecting corporations' control of their business. As examples, think of how you rarely speak to a real person when you're phoning a business now, and how many videos you watch which don't use human narrators.

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While the above five criteria are what any steady-state economy must have worked into their structures, what follows now are the specific structural mechanisms which this single particular example of SSE employs to fulfill the criteria.

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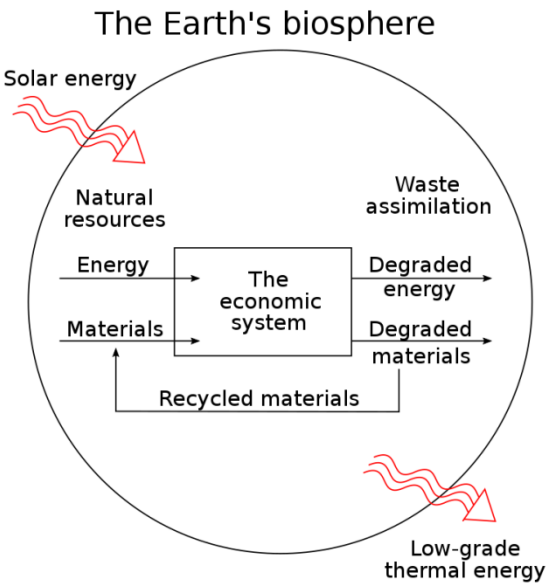
An Example of a Steady-State Economy:

This time, let's start with illustrations, and have the explanations afterward.

Illustration #ii (below) will be no-doubt familiar to those conversant in ecological economics. It was first designed Nicholas Georgescu-Roegen, (b.1906 – d.1994) and his student, Herman Daly, b. 1938 – (happily still with us). The illustration is disarmingly simple but gives, at a glance, the truth about how the natural world works. The human economy (the rectangle) is a wholly owned and completely dependent extension of planet Earth's natural ecology and limited resources (the outer circle). Plus it shows the limits of energy input, conversion and waste.



Illustration#ii

Illustration #iii (below) borrows somewhat from Illustration #ii, to show how the human economy is ultimately limited by the Earth's resources. But its main purpose here is to show how the movement of resources, goods, services and currency all flow in the steady-state example. The five numbered *stations* inside the rectangle are the major sectors of society which nteract

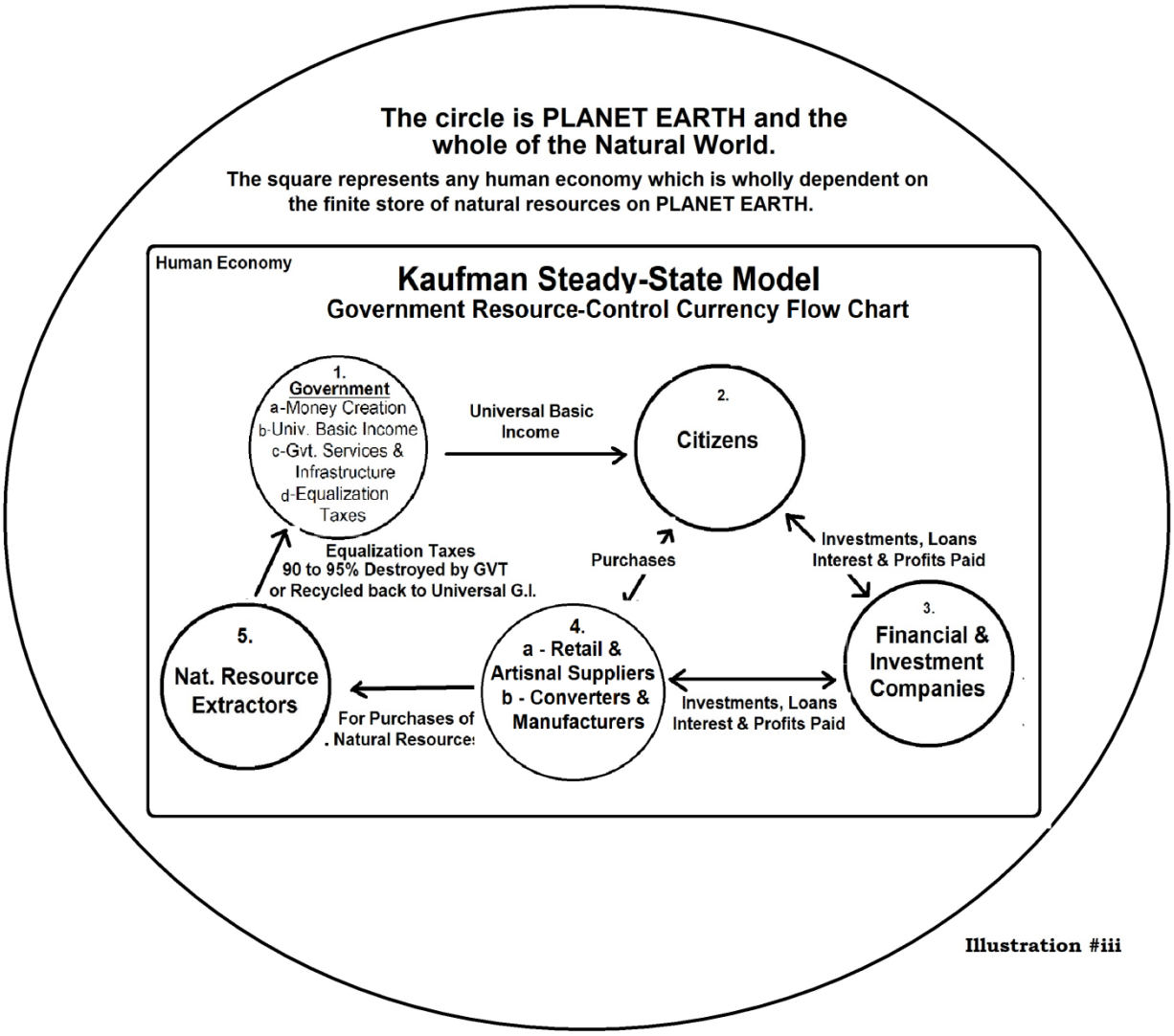


Illustration #iii

with each other. Explanations follow directly. Please refer back and forth between illustration and ext for clarity, since some of the ideas may seem strange and antithetical (naïve?) to people who have lived in an economic growth environment their entire lives.

The nuts and bolts working parts of a Steady-State Economy:

Readers should be aware that, like all processes with multiple parts, each is interconnected to the others in multiple ways. Therefore, as one is described, questions may come up in the reader's mind that will be answered as they read on, and hopefully the larger concept may fall into place. Again, readers are encouraged to go back and forth between the text and illustration to get a clear understanding of the process as they digest information. And as before, while each of these parts are large topics worthy of whole chapters or books, because this paper is designed for *steady-staters* and ecological economists in the know, I will only occasionally and briefly include a salient point or two as background or a comparative where it seems necessary and appropriate.

Stations in Illustration #iii:

Station #1: GOVERNMENT

a) Money Creation b) Universal Basic Income

c) Gvt. Services & Infrastructure d) Taxes

Station 1: a) Money Creation:

Governments will take over the creation of its nation's currency. This is not a new or revolutionary thing. A recent example is Canada. Starting for the 1930s, when the Bank of Canada was created, Canada built the whole infrastructure of a new country with money they created, debt free from private banks. This is how Canada financed the Second-World War, the Saint Lawrence Seaway, the Trans-Canada Highway, the building up of cities, educational and healthcare systems, and more. Conservative economists just figured out what they required and

responsibly created the amount of currency that was needed. The money then went through the hands of business and workers and into the general economy, including into banks, to be leant out as loans using fractional methods. It was only in the 1970s when the World Bank convinced Canada, along with over one hundred other countries since the end of the Second World War, to borrow money through a privately-owned central bank system they were setting up in almost every country on the planet. (There is an important history here which must be understood by those interested in ecological economics.)

Money is usually just seen as a medium of exchange, something that all citizens agree has value. In this steady-state economy, it is not only a medium of exchange, but also used in a way to decrease the use of virgin natural resources. For this reason, it can be called a Resource Control Currency (RCC), which it will be called, along with currency, for the balance of this document. How it controls, or mitigates natural resource loss will become obvious soon.

With governments once again responsible for creating the currency supply, instead of money going into the economy at the top of the financial pyramid through bank loans, it is directed out into the community through Universal Basic Incomes (UBI).

Station 1: b) Universal Basic Income (UBI) *or Universal Citizen's Dividend (UCD)*:

Most of all the new resource control currency will get into the economy through guaranteed incomes paid to each and every citizen. An example with amounts distributed to adults, adolescents and children is given soon.

Using UBI to inject currency into the economy replaces fractional banking methodologies. This change to the current economic system is probably going to be the most disagreeable to the tenth-of-one-percent of the population who have control of banks and

currency creation. But again, if and when the transition to SSE is completed, 99% plus of the population will benefit and live happier lives.

A universal basic income will not be the only income for the vast majority of adults. Most will earn the bulk of their income from other external employment or self-employment. And UGI is not a new idea. It's been around for a long time, as any background literature you research will show.

Detractors say UBI will make people lazy. Studies show this is not so. In the 1960's and 70's, the US held various trials where they supplied citizens in six states with a guaranteed income (New Jersey Graduated Work Experiment, The Rural Income Maintenance Experiment RIME, Seattle/Denver Income Experiment SIME/RIME), and Canada did something similar in the towns of Dauphin and Mincome, Manitoba. People continued to work, and where there was a slight decrease, the reason was the ability to stay home for child care. Also, children graduated from highschool at a much higher rate. The reality is, the vast majority of people want to work. In its purest form, work in a future world is a person doing what they're good at, what makes them happy and what fulfills them as an expression of their individuality. This is opposed to now, where a preponderance of people stay in jobs they don't care about for years.

Some readers' first reaction about guaranteed incomes is that people would be getting money for nothing. This is an arrogant way to look at it. Try seeing it as everyone is getting a fair share of the natural wealth of nature and society. A business analogy would be that the owners of society, all citizens, are getting a monetary dividend from a prosperous, well-run economy.

With the last point still upper most in readers' minds, perhaps the name Universal Basic Income (UBI) could be renamed as a "Universal Citizen's Dividend (UCD)." This allows us to reimagine citizens as responsible shareholders of the limited natural resources which science will

determine are allowed to extract from the planet over time. Calling it a basic income in some ways perpetuates the idea that people cannot take care of themselves and need some master to guide them. While benevolent leadership as a service to society is always a good thing, coercive leadership through the control of money is not. And while a tiny fraction of adults can't be independent, when the vast majority of mature citizens understand that they are stakeholders in the economy receiving a dividend that they are responsible to properly invest, it fundamentally changes the way people think about themselves. Receiving this dividend is not just a right, it is a responsibility most adults will rise to the challenge to meet.

UBI as the major way that money gets into the financial system is what truly democratizes our economy. How people spend and invest their money will require banks, investment companies and entrepreneurs to be more responsive to the citizens opinions, and a basic income takes the pressure people so they will actually have the time and presence of mind to educate themselves in the understanding that -- how they spend and invest their money will determine how the world is organized.

Readers pursuing a fair study of universal basic incomes will no-doubt come to the conclusion that they provide many benefits and no downsides for the majority of citizens.

Station 1: c) Government Services and Infrastructure:

-A percentage of the Resource Control Currency (RCC) which government creates is to be used to provide universal healthcare, education, government and social infrastructure like schools and hospitals. As well, like now, government will use some of the RCC to partner up with industry and investors to finance public infrastructure projects or to finance breakthrough technologies the private sector is not quite ready to tackle itself. This is how many scientific and technological breakthroughs have happened in the past, with industry then taking over ownership

of the new technology for little or no cost. But in the future, with individual citizens having access to a consistent flow of money, many more people than now could participate in private investment. (further description to follow) This might lower government paying for research and development. Take as a current example, how private industry has taken over the development of space exploration.

Station 1: d) Equalization Taxes:

Perhaps we need a new name for taxes too, since most people currently view taxes as a way to provide money for government services to citizens. But if government is making the money society needs to take care of healthcare, education, infrastructure, etc., personal income taxes, sales taxes and manufacturing taxes, as we know them, will not exist.

A new mission for taxes (or whatever they end up being called) will be to keep an economy in balance. Economists will need to find ways to inject or decrease the amount of credit available in a system to protect the steady-state economy from unwanted economic effects; hyperinflation, deflation, too high an income or asset accumulation gap between citizens, etc. I mention hyperinflation and deflation because, since there is consistent creation of currency for UBI, over time, there could be too much money in the system. But this is not a given. Currently fractional lending pumps in massive amounts of new credit into the economy every year and takes a lot out when loans are repaid. So there's nothing revolutionary about adding and removing from the economy. The reality is, a new generation of economists interested in economic reform will have to work out the modeling details of a steady-state economy.

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Station 2 in Illustration # iii: CITIZENS

How a Universal Basic Income (UBI), (or Citizens' Dividend) could be structured:

To illustrate more specifically the nuts-and-bolts of how each citizen could receive their UBI, what follows are specific numbers and a chart constructed with recent real-world data. When the time comes, the exact amount of money governments will create, the percentage slotted for guaranteed incomes, and the amounts held for public services will eventually be determined by much research, debate and proper computer modelling. My model is here just to illustrate a process and basic formula to stimulate thinking and prove the idea.

As well, UBI is described here as if the Steady-State Economy is in full swing planet-wide and everyone on the planet is being given the same guaranteed income. This is despite the fact that living wages around the planet are very different at present. Eventually, perhaps the formula would be the same everywhere, or perhaps some regions would want to do things slightly differently to express their regional nature. As long as it's equitable and non-usurious, variety and experimentation is always a good thing. For brevity here and now, current first-world living-wage numbers are being used.

Let's begin with two relevant real-world statistics from 2014; the Gross World Product (GWP) and the human population. In 2014 all business transaction on the globe equaled One-hundred-and-seven-TRILLION, seven-hundred-and-fifty BILLION Dollars US. ($107,750,000,000,000 – 12 zeros) There was also seven and a half BILLION humans on the planet at that time. (7,500,000,000 – 9 zeros)

In the chart below, 70% of the money created is allocated to individuals as guaranteed incomes. The remaining 30% is then inserted into the economy to pay for social programs, such as healthcare, education, infrastructure, as already described.

As for the 70% of money created going to citizens, perhaps children and adolescents would get a smaller share, whereas full adults get a full share; (ages are suggestions)

-A full share to adults 21 years of age and older.

-A 60% share to adolescents between 13 and 20, to learn to be independent.

-A 25% share goes to children 12 and under, administered by parents or guardians.

A guaranteed income should be approximately 35% (to be computer modelled) of the cost to live a comfortable life. This allows average people in the SSE era to not have to work more than 18 to 20 hours per week to make up the money to live very well. People who cannot work for themselves outside of UBI should then be eligible for social supplements. As well, we must make sure that once UBI becomes established, it doesn't become degraded to a lower percentage by people who are trying to subvert the system.

What follows is a chart to show the numbers quoted above:

Total economy	$107,500,000,000,000	100%	107.5 Trillion $ worth of Natural resources & service economic activity.
$ for Population	$75,250,000,000,000	70%	70% total of resource allocation
Population Total	7,500,000,000	World Pop 2017	
	$10,033	* Per person 21 & older (full share) 75% of the present population	Per year
	$6,020	*Per person 13 to 20 (60% share) 11% of the present population	Per year
	$2,508	*Per person under 13 (25% share) 14% of the present population	Per year
	$ for Govt Services	30%	% total resource allocation
	$18,750,000,000,000	$ 4,300 per person	per person Health care, education, infrastructure, special projects, etc.

While a guaranteed income of $10,000 per year doesn't seem like a lot for an adult in a first world country right now, it's actually over four times larger than the aggregate income of all the individuals on the planet in the early 21st century. It also means a family of three could receive a guaranteed income of between $22,574 & $26,086, while families of four, between $25,082 and $32,000, depending on the age of the children.

The amounts are for families with one or two children. It is meant as an average. Some will have less, some more. This is not the place to get into a debate whether society should pay for more children. It's probably a moot and unnecessary point. As inferred earlier, UBI and access to education seems to lower the fertility rate to below replacement rate, a main driver of this SSE.

And, while you process these ideas and numbers, remember;

-these incomes are separate from other work people to choose to engage in.

-there should be no reduction in your guaranteed income when you earn other monies.

-there could be no income tax as we know it, since government doesn't need your money to provide services. (again, subject to computer modeling and input)

-healthcare, education and infrastructure is paid for by monies allocated from the government's yearly money-creation budget.

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Station 3 in Illustration # iii: Financial and Investment Companies

It's important to realize how Universal Basic Incomes first passing through the hands of the population still leaves all of that that cash in the economy, totally available for use by business and banks. It just doesn't go from its creation in banks and straight into businesses

coffers, as it does now, denying any benefit to or influence from society in general. The fundamental change of first putting money into the hands of every citizen means the majority of money goes up the economic pyramid (instead of down) to suppliers who, just like now, compete for the public's business by using innovation in their specific sector of the economy. Nothing changes in this respect. Competition will still drive innovation. The game is just less fixed.

Those on the left who want market rules controlled and guided by government bureaucrats are just as wrong as those who want financial control maintained preponderantly by extremist free marketers. Balance, as in all things in life, is the key to longevity.

So, what becomes of banks in a successful steady-state economy? Let me start by saying that, because the word 'bank' has a usurious and negative connotation for many, I will refer to the institutions that people with investment and financial talent work within as Financial and Investment Companies.

As to how they will be successful, when financial institutions are dependent on receiving their working capital from the public investing their surplus savings, what is invested in will be much different. As it is now, the majority of citizens are not currently financially astute, and the small financial elite has not steered society in a direction for the general welfare of citizens. There is always pressure for skewing the system for corporate profit over the health of the environment and citizens in general. It bears repeating that receiving a universal basic income, which could be better described as a Universal Citizen's Dividend, will fundamentally change the way people think about themselves. Most will rise to the responsibility of placing their assets in investments which will give society long term benefits.

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Station 4 in Illustration # iii:

a) <u>Retail & Artisnal Suppliers</u> b) <u>Manufacturers & Converters</u>

What follows now is how currency flows between citizens, local merchants and small-scale local manufacturers or artisans. Described as well are the manufacturers and converters of raw materials supplying local outlets. While new technology will no doubt flatten the current multi-level supply change, for the first decades of a steady-state economy, the following might be the way it's organized. Again, it's not that different from now.

Station 4: a) Retail and artisanal suppliers:

These are citizens and businesses who act as merchants, supplying the small-quantity basics of what is needed by the majority. But when you think of a future where probably 90% or more of all the products and services can be provided by automation, where citizens literally will not be needed to run the automated plants churning out almost everything, perhaps what people choose to purchase may be different. If people whose abilities are not that of engineers, entrepreneurs, politician, or other professionals, and if they aren't needed to work as cogs in the machinery of manufacturing because automation has taken over those jobs, perhaps because they have a regular universal guaranteed income, they might choose the life of some artisanal crafts person: tailor, local market gardener, ceramist, glass blower, wood worker, etc. Perhaps what we call retail today may be totally different. With guaranteed incomes protecting the public, big business no longer can coerce citizens into living their lives "working for the man," allowing a resurgence of local small manufacturing and crafts. Although mass market clothing could still be available, perhaps many or most people won't choose to be wearing computer-made clothing. In part, this may reverse automation eating into small manufacturing and individual and unique designs will be more sought after than large-scale manufactured products. Perhaps the era of

wanting perfect copies of items will end. All household goods, such as flatware, cooking implements, plates, cups, furniture, bedding, etc. will then be able to be affordable because of a less predatory economic environment. Proof of an urge to go back to this can be seen at any crafts show. And this doesn't mean just individual crafts people. A designer could be successful, have many artisans working for them, and sell, not just locally, but globally. Then there are builders, and food from local and regional farmers. SSE will allow a different vision of the future. Regardless of what the world looks like, currency, including every citizen's UBI, will flow from the consumer citizen to these local suppliers. Follow the arrow from Station 2 to Station 4.

As well, any financial surplus these suppliers find themselves with can be invested in the financial investment companies. Follow the arrow back from Station 4 to 3. Or these small businesses can borrow or take on investments from the investment companies, and then pay interest or profit share with investment company and/or their citizen investor's, arrow Station 4 to 3 and back to 2. This really isn't unlike today, except the SSE structure is not skewed and allows the profit to be shared among the whole of the population.

Station 4: b) Manufacturers and Converters of Recycled Material:

In a world where population is beginning to retract, the need for housing, manufacturing facilities, retail space, the infrastructure of roads, rail, ships and planes, will become less. This sets up the opportunity for converters, a whole (more serious than today) sector of business that reclaims and recycles the previously used metal, minerals, wood, paper products, glass, and more, to be reused by the current manufacturers. And what can't be repurposed will be returned to nature. While many think that this is already happening, it's important to note that, since Asian countries have put a moratorium on bringing in recycling material from Western countries,

over 70% of plastics collected for recycling in first world countries is actually not recycled, but thrown into dumps or into the ocean. Western manufacturers have found it cheaper to pay government a premium to throw out what citizens think is being recycled and continue with their supply chain undisturbed. This continues the call for virgin natural resources in first-world manufacturing and shows how government must stop protecting industry from the public knowing such information. In a steady-state economy, the public's investments would then show its demand for proper and full recycling against today's industry leaders, and the continued demand for technological innovation for greater and greater efficiency in recycling. This is where future profits hide. And industry leaders, currently taking their cue from banks and their shareholders demands for maximum short-term profits, would be compelled to change because of the democratization of the public's will with the spending of their resource control currency.

Destroying money used to buy virgin resources (this procedure overlaps Stations 4 & 5):

As for when manufacturers need to use virgin natural resources to accomplish their work, there is another vital aspect to make this steady-state economy work successfully. And that is, when virgin natural resources are purchased, that money is taken out of circulation, or destroyed. This way it can't be used again to buy more virgin resources.

This is in contrast to now, where money is used over and over again to purchase virgin raw materials. Destroying this money is another 'stick' to keep manufacturers from taking the easy route of using more virgin natural resources. Once again, destroying money is nothing new. Destroying money is a common in fractional banking procedures. The reason for doing it is different, but it happens all the same. So, nothing new here.

In contrast to destroying money used to purchase virgin resources, money spent in the service sector or in a manufacturing business where recycled material is converted for reuse, the money used to purchase these things stays in the economy. A single example; a converter needs to purchase natural gas to recycle metal. The money needed for the purchase of the scrap metal is not destroyed, but the money for the natural gas is. Also, to encourage recycling, whatever the recycled cost of a product comes to be, virgin raw materials must be 35% to 50% higher than the recycled. This might be the only part of this whole system not market driven at the beginning, since recycling most items is somehow more expensive. But when innovation and technology make recycled manufacturing materials cheaper, perhaps this will be market driven too.

But the 'bottom line' is, the system is designed so that using fewer virgin raw materials equates with higher profits and retained wealth. This, along with all the other steady-state structural changes previously described, has the potential to maximize the separation between the human economy, which we're aiming to make smaller, and the natural economy, which has a finite size and we are destined to depend upon for the foreseeable future. It is what will allow a human economic system to remain robust and stable, even as our human population lowers.

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Station 5 of Illustration # iii: Virgin Resource Extractors, Government or Industry?

As it's vitally necessary to reduce the amount of virgin natural resources humans take from nature, it's incredibly important to organize this with an especially long-term vision. After all, it's crucial for us to let the natural world heal and rebuild itself.

The first question to contemplate in approaching this aspect of SSE, is who should be in charge of extracting virgin raw materials, government or private industry?

While the government's resource control currency (RCC) is created and distributed using UBI, and the quantities of natural resources allowed to be harvested are most-probably best specified by government scientists and monitored by government agencies, the resource extraction should not be done by government corporations. Those best suited for senior regulatory government work are very smart, responsible people whose job must be to be upholding policies aimed at the best long-term interests of the planet, the key term being 'long-term.'

Therefore, just like today, mining experts, engineers of all disciplines, scientists, physicist, even space explorers for space mining -- people who are the best at what they do -- will do the work of extracting, processing, warehousing and distributing virgin raw materials. History has taught us that it is more efficient to let the creative minds inside private companies to do such work. Those being licensed to do this important work will not only win their bid by being the best priced, but by proving their proficiency, competence and understanding of their societal obligations. They must be extremely competent, the best of the best business and technical minds. Hopefully this will give free marketers some comfort.

As for how extractors get paid, perhaps they would bid to keep a small percentage of the virgin raw materials sale price, probably 5% to 10%, again, with the balance going to the government to be destroyed. Finally, it wouldn't be surprising that those corporate leaders doing the harvesting of the limited amounts of virgin materials would also be using their talents to lead the very large recycling projects smaller converters aren't set up to do. They may even be involved in reclamation projects of land no longer needed, turning it back into the 'wild'.

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In conclusion, there is one thing from the beginning of this writing that bears circling back to. And that is, if there is to be any hope of overcoming our current destructive economic-growth economy, it will be because a relatively small collection of ecological economists, steady-state advocates, environmentalists, and activists from other interested groups, have worked together in common cause. It most probably will end up as a marketing campaign. It's far from academia, but this is what it will take to sell the idea that a critical percentage of the public must come to understand why we need economic reforms. What is promoted might be like the steady-state economy described in this paper, or another that meets a criterion to allow humans and the natural world to thrive in perpetuity. But, what is needed before the marketing begins is a clear and unbiased vision of the future. It is only by working together successfully that our progeny will have the opportunity to find for themselves fulfilling, alternative livelihoods.

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This completes a short description of a steady-state economy. There is much more to be described. Those interested can go to the following link:

Lory Kaufman's
Blog about Steady-State Economics

Here you will find more details on what this paper has touched on, plus other important topics that are related to the steady state discussion, but not included. This paper has only been an introduction.

-end of paper-