Herman Daly's policies for a Steady-State Economy

Ecological economics should seek to develop the steady-state vision and get beyond the dead ends of both economic imperialism and ecological reductionism. Ten policies for moving toward a steady-state economy appear below.

Many could be adopted independently and gradually, although they cohere in the sense that some compensate for the shortcomings of others. Of course, the question of the desired level of steady-state economy is crucial, and local, regional, and global ecological limits must be considered in fashioning effective policies.

(1) Introduce Cap-Auction-Trade systems to regulate the use of natural resources (especially fossil fuels): Impose annual (adjustable) caps on rates of natural resource extraction and waste generation. Set the caps according to three fundamental rules: (a) renewable resources should not be harvested faster than they regenerate; (b) non-renewable resources should not be depleted faster than renewable substitutes are developed and established; and (c) wastes generated from all resource use should not exceed the ecosphere's capacity to absorb and reconstitute wastes as renewed natural resources. Adherence to all three rules would keep natural capital intact, at the very least. As non-renewable resource stocks decline, renewable resource stocks would increase, thus constituting an increasing share of total natural capital.

Have a government authority auction the limited (capped) rights to extract resources and generate wastes, which would exist in the form of permits with a limited lifespan (one year). Auctions of new permits would take place annually. Until permits expire, allow the permits to be traded in a secondary market, thus allowing permit prices to float. The permit price at auction would serve as a tax, which would allow a government to reduce the marginal tax rate on low incomes to compensate the poor for any flow-on inflationary effects on goods prices.

This approach would achieve sustainable scale (caps), market efficiency (permit prices), and contribute to distributional equity (a more progressive tax system). By preventing increases in resource demands from overwhelming resource savings obtained from increased efficiencies, the caps would circumvent rebound effects. In addition, by increasing the cost of using virgin resources, the system would encourage greater rates of waste materials recovery and recycling (akin to whirlpools in a river), not to be confused with the fictional 'circular economy'.

Explanatory Comments for **Policy 1**:

- Renewable resources would not be depleted but be extracted at a rate no more than they naturally regenerate. By their very nature, non-renewable resources would shrink as they are extracted (depleted) but be replaced by substitute renewables. Stocks of renewable resources would expand (a) and (b); stocks of non-renewable resources would shrink; total natural capital would remain constant, at the very least.
- I think minor details about the auction-trade component of the system should be mentioned.
- Assuming the government is a monetary sovereign (currency-issuing central government or CICG), the system does not 'raise revenue' in the sense that it does not provide the government with more money than it already has, which is

as much as the government is prepared to create with computer keystrokes. The permit price serves as a tax insofar as it performs the same function as a standard tax – that is, it destroys private-sector spending power, thus freeing up real resources for the government to access or for the poor to access should the marginal tax rate on low incomes be lowered (compensation).

- The caps need to be adjustable to allow for droughts, plant diseases, and other ecological disturbances, all of which can alter, even if in the short-run, the ecosphere's regenerative and waste assimilative capacities.
- The caps should exist as 'access rights' in the form of permits. The permits must have a limited lifespan and become null and void if unused by the expiration date. A limited lifespan is necessary to adjust the caps, as required, and to minimise speculative buying and selling of permits in secondary markets, which would otherwise distort permit prices and offer rent-seeking opportunities. It would also prevent accumulation of permits for large-scale future use. Cap-Auction-Trade systems (CATS) need to maintain a relatively constant rate of throughput, not lumpy rates – some today, some tomorrow; not little bit today, large amount tomorrow.
- If the permits only have a one-year lifespan, auctions would take place annually. Resource buyers (therefore, buyers of permits) would not be inconvenienced by the need to engage in annual auctions and/or buy and sell permits in secondary markets. They already engage in frequent purchases of raw or refined natural resources, capital goods, and labour hiring.
- End consumers of products would not engage in auctions or secondary permit markets unless they wish to buy permits and not use them to bring about a macroeconomy smaller than its maximum sustainable scale (i.e., optimal scale). Otherwise, only forestry companies (raw timber), fishers (fish), mining companies (minerals), and irrigators (water), etc. would be involved. The demand for permits would be determined by the demand for end products (consumer and producer goods) and desire for a smaller macroeconomy. Increased demand for goods would lead to a greater demand for natural resources (and increased waste) and therefore a greater demand for permits. However, caps only allow demands for natural resources to be met up to the sustainable limit. Any further demand simply pushes up permits prices and increases the cost of production. Without increased efficiencies (reduced throughput-intensity of production), this would lead to inflation. The cost-increasing effect of rising demand encourages greater rates of efficiency and materials recycling – a desirable in-built feature of CATS.

(2) Tax shifting: Reduce the tax impost on "value adding" activities (i.e., reduce taxes on labour and capital, especially the former) and shift it onto that to which value is added (i.e., impose taxes on natural resource throughput) on the understanding that a high rate of resource throughput is the source of many ecological and social costs (bads), such as pollution and other adverse public health hazards. This tax shift would increase economic welfare without the need for growth by: (a) encouraging value-adding activities (increased economic benefits); (b) promoting efficient resource use (reduced ecological costs); and (c) discouraging social bads (reduced social costs). Recognise that the permit prices generated by Cap-Auction-Trade systems for natural resource extraction and waste generation (see policy (1)) would already serve as a tax on natural resource throughput.

Explanatory Comments for **Policy 2**:

- I believe the words tax 'base' should be changed to tax 'impost' because tax base implies CICG 'revenue', which it isn't. Taxation is an 'impost' in that it is obligatory and reduces private-sector spending power.

- A reduction in the tax impost on labour and capital should be biased towards labour to encourage the employment of labour and because low-income labourers would be most affected by taxes on natural resource throughput.

- Include an explanation as to how tax shifting would increase economic welfare without the need for growth to allay fears that a SSE would prohibit development (qualitative improvement).

- With Cap-Auction-Trade systems (CATS) in place, there would be little need to impose specific taxes on natural resource throughput. Permit prices would do the job.

(3) Limit inequality: Establish minimum and maximum income limits, maintaining differences large enough to preserve incentives but small enough to be equitable and suppress the concentration of economic power and political influence. Recognise that receipts of monetary payments above the maximum income limit effectively constitute unearned (unjust) financial claims on real wealth (economic rents) and therefore should be confiscated. Set the minimum income at a level that meets an individual's material needs (financial claim on private goods), whatever society decides that to be. Set the maximum income at a level received by a prominent public official – for example, the annual salary of the nation's President or Prime Minister.

Have currency-issuing central governments use their fiscal powers to purchase the real resources needed to provide a desired quantity of easily accessible public goods and maintain a low-inflation form of full employment (see policy (9)).

Explanatory Comments for **Policy 3**:

- I believe the disparity between the minimum and maximum income should, first and foremost, be determined on equity grounds irrespective of what inequality means in terms of economic and political power – that is, on whatever society believes is fair and just (decided upon and imposed through democratic processes).
- Of course, the power granted to those with huge financial claims on real wealth is very important. If a society goes as far as establishing minimum and maximum income limits and an equitable disparity between the two, it will almost certainly have gone far enough to limit undue economic power and political influence.
- Financial claims on private goods are important, but so too is one's access to public goods. CICGs should use their fiscal powers to provide a desired quantity of public goods and achieve and maintain full employment.
- Markets *per se* are not the cause of plutocracies – poorly regulated markets are a major factor. Many societies less reliant on markets also have plutocratic tendencies, usually enforced by autocratic (repressive) means.

(4) Nationalise the banking system: Since modern money is a public good, have the central government own and operate the banking system. Allow the government-owned banks to create and advance credit money to credit-worthy customers and charge a variable interest rate equal to the prevailing (changing) inflation rate to ensure borrowers repay the real value of outstanding money. Confiscate all interest payments in the same way central government taxation destroys the government's base money. Pay the same rate of interest on all deposits held in bank accounts to maintain the real value of private-sector savings.

Under current arrangements, every base dollar spent into existence by the central government that has yet to be taxed (destroyed) is a form of 'hard' savings in the sense that the savings are permanent. Furthermore, every credit dollar advanced into existence by a bank that is yet to be repaid (destroyed) is a form of 'soft' savings in the sense that the savings are temporary. Eventually all credit dollars, and therefore all soft savings, are destroyed by the repayment of advances. Under new arrangements, the aforementioned would still apply, however, the confiscation of the interest paid by borrowers on outstanding advances would prevent any person or entity from enjoying the (unearned) seigniorage solely granted to currency-issuing central governments to serve social purposes.

Explanatory Comments for **Policy 4**:

- I can't agree with this reform in the form that it is presented. It is based on a false understanding of modern money.
- Firstly, fractional reserve banking is a mainstream textbook myth – invented to support the mainstream money creation (money multiplier) fable.
- Secondly, debt is a liability that, to extinguish, requires surrendering something real and tangible. Unlike currency-users, CICGs surrender nothing real to create their own currency – which they do nowadays with computer keystrokes – to purchase something real in their own currency. CICGs enjoy 100% seigniorage. Hence, when CICGs issue their own currency, they incur liabilities, not debts. That is, they issue non-interest-bearing government liabilities.
- As for the balance between investment and abstinence from consumption, there are many problems with this:
    - Investment, which is spending on producer (capital) goods rather than on consumption goods, is, by definition, abstinence from consumption.
    - Importantly, there is another form of abstinence from consumption to consider.
    - The advent of modern money (together with taxation) around 5,000 years ago .
    - MM enabled individuals to:
        - spend less than they earn now (saving) in order to spend more than they earn in the future (dissaving) – i.e., it allowed individuals to delay spending
        - spend more than they earn now (borrow) but be required to spend less than they earn in the future (repay the debt) – i.e., it allowed individuals to bring spending forward
    - Humans were unable to delay spending in the pre-MM days, since pre-MM was nothing but a unit of account (a means of recording debts).
    - What is possible at the individual level, is not automatically possible at the aggregate level. It is impossible for currency-users, in the aggregate, to

spend less than they earn (net-save) unless the CICG spends more MM into existence than it destroys through taxation.

- Assuming a CICG spends more than it taxes to accommodate the positive net-savings desires of currency-users, there is a second way to abstain from consumption – simply refrain from spending after-tax income (i.e. save). This includes refraining from spending on capital goods (investment) as well as on consumption goods.
- Overall, the two ways to abstain from consumption spending are:
  - refrain from spending after-tax income (saving)
  - if spending some after-tax income (not saving), purchase capital goods rather than consumption goods
- Thus, a balance between investment and abstinence from consumption will only occur if, in the aggregate, the desire to not spend after-tax income (saving) is exactly equal to spending on capital goods (investment). For this to occur, the desire of currency-users to net-save must exactly equal zero! That is, savings must exactly equally borrowings. This would only occur by pure coincidence. The belief that the two will balance, or in any way need to balance, is based on the false belief that a balance will naturally occur through interest rates adjustments driven by market forces (i.e., if interest rates are too low, such that saving is less than investment, interest rates will rise causing saving to increase and investment to fall until they equate).
- It also assumes that: (a) all borrowing of credit money is only used for investment spending, never spending on consumption goods; (b) investment spending is inversely related to interest rate changes; and (c) savings provides banks with the funds needed to 'lend' for investment spending purposes. The first assumption is clearly nonsense – people also borrow to purchase consumer goods. The second assumption is not supported by the evidence – for example, interest rate increases appear to reduce the share of investment spending funded by borrowing (i.e., increase the share funded by retained earnings); increase funding costs; and place upward pressure on goods prices as producers/sellers pass on the higher funding costs to buyers. Overall, interest rate changes appear to have little impact on investment spending, whilst interest rate rises appear to be inflationary or slow the rate at which other factors reduce inflation. The third assumption is also nonsense and merely part of the mythical money creation story.

- Thirdly, 100% base money (zero permissible credit money) would require, for some time, the CICG to spend well above the money it destroys through taxation (i.e., run large budget deficits) to enable currency-users to build up sufficient savings to enable banks to lend at something near current levels. The CICG would have to replace the investment spending that would not be possible until enough savings are accumulated to be 'lent'. For some time, it would also have to replace a lot of consumption spending that would normally be funded by borrowings.
- It must also be remembered that all savings lent would have to be money held in term-deposits (i.e., can only be money that depositors are willing to temporarily part with). It cannot be savings held in at-call savings accounts. That means CICGs would have to do the large deficit spending for a considerably longer period than most people would envisage (until there is enough savings held in term-deposits). Competition to borrow the limited funds would drive up borrowing interest rates. This would add to financing costs and be inflationary.

- Overall, 100% money is unnecessary, difficult and cumbersome to implement, and likely inflationary, the very thing that 100% money seeks to prevent.
- The problem with the current system is that privately-owned banks can create credit money from nothing – a public good – and charge interest on it, thus allowing banks to derive financial claims on real goods and services without having to surrender anything real and tangible. That amounts to an economic rent or seigniorage, which should be the sole privilege of a currency-issuing central government.
- To overcome this problem, the banking system should be nationalised. This would allow the central government to capture the seigniorage derived from charging interest and destroy it. Interest needs to be charged on the credit money created and advanced into existence by the government-owned banks to prevent borrowers from paying less than the real value of the money advanced to them, which would otherwise hand borrowers an unearned financial claim on real goods and services (economic rent). To encourage saving (not penalise saving), interest needs to be paid to savers to maintain the real value of their savings (i.e., to maintain their delayed financial claims on real goods and services). The nominal interest rate charged on advances and paid to savers would be the same and should equal the prevailing (changing) inflation rate. In other words, the banks would charge borrowers, and pay savers, a zero 'real' interest rate (Note: real interest rate = nominal interest rate minus the inflation rate).

(5) Manage trade for the public good: Move from unfettered trade and free capital mobility to balanced and regulated international trade by reintroducing international capital controls. While the interdependence of national economies is inevitable, their integration into one global economy is not. Unregulated trade undercuts domestic cost-internalisation policies (e.g., tax shifting policies, see policy (2)), leading to a degenerative race to the bottom (e.g., downward pressure on wages and environmental regulations). Free capital mobility renders 'absolute advantage' the principle governing both international trade and the international location of production activities, thus invalidating the 'comparative advantage' argument for mutually beneficial trade in goods and services.

Explanatory Comments for **Policy 5**:

- Highlight that cost-internalisation means tax-shifting to force perpetrators to pay for the cost of any unpriced spillover effects offloaded onto society, which, if left untaxed, constitutes an implicit subsidy. This is an important point because many people who do not support cost-internalisation policies also detest subsidies. They don't realise that an unpriced spillover cost is equivalent to an implicit subsidy and thus they contradict themselves. They are also believers in the use of markets, yet fail to understand that markets can only be effective allocation mechanisms if market prices reasonably approximate all benefits and costs, which can only occur if unpriced spillover costs are internalised. They therefore contradict themselves a second time.
- It is also important to point out that free capital mobility validates absolute advantage and invalidates comparative advantage. This is standard textbook stuff that is conveniently overlooked. Only the latter promotes mutually beneficial trade. The former leads to shifting of production location to avoid cost-internalisation policies.

(6) Expand leisure time: Give people the opportunity to reduce their work time (increase their leisure time and engagement in non-economic activities) so they can enjoy a preferable work-life balance and be better positioned to satisfy their higher-order (psychological) needs and lower-order (physiological) needs. Facilitate this change through two reforms. Firstly, establish an institution that equally distributes the benefits of increased productivity to labour and capital by raising real hourly wage rates for labour as productivity gains are made. Secondly, give wage and salary earners the ability to enter working arrangements that allows them to enjoy a shorter working-week (for reduced pay) and pro-rata sick leave and annual leave entitlements common with full-time employment. Both reforms would allow workers to trade-off increased consumption with increased leisure at no expense to employers – an immediate post-World War 2 phenomenon that led to a desirable shortening of the working-week that, because of growing institutional deficiencies, has morphed into a degenerative trend towards overwork and precarious casual employment.

An expansion of leisure time would promote job-sharing and reduce the GDP required to achieve full employment. This would render it easier for governments to achieve and maintain full employment should a nation require a degrowth phase before stabilising at a steady-state economy smaller than its present physical scale.

Explanatory Comments for Policy 6:

- Reduced work time (increased leisure time) should not be forced onto people. It should be offered to people. Most would take up the offer.
- It can be made possible, without being detrimental to employers, through increases in productivity.
- Productivity rises have occurred in recent decades, but the gains have been largely distributed to capital. In Australia, this trend was started with the 1983 introduction of the Prices and Incomes Accord – a disaster for wage and salary earners and a boon for capital. The dismantling of other industrial relations institutions has only worsened things.
- Institutions need to be (re)established to restore the balance between labour and capital. They need to distribute the benefits of productivity increased equally between labour and capital. They also need to enable workers to trade-off increased consumption (income) for increased leisure, should they desire it, without forgoing sick leave and annual leave entitlements common with permanent employment. This would restore the trend towards a shorter working week that occurred in the immediate post-WW2 period as productivity gains were made, that has since ceased.
- Increased leisure time, by promoting job-sharing, would also make it easier to achieve full employment in a SSE.

(7) Stabilise population: Work toward a balance in which births plus in-migrants equals deaths plus out-migrants (zero population growth) and where every pregnancy is a wanted pregnancy. Provide women unfettered access to contraception and abortion as well as access to a first class adoption system. These services plus equal share in decisions with respect to their bodily integrity may reduce unwanted pregnancies.

Explanatory Comments for **Policy 7**:

- You might ask why I've altered the wording of this statement.
- To begin with, I'm not sure what is meant by "….in which every birth is a wanted birth". If it implies that unwanted births would have been better terminated, I think this is inappropriate.
- What I'm about to say comes from a person with a different life experience to most people.
- I was an unwanted pregnancy. I was not an unwanted child. I was given up for adoption at birth and adopted at two weeks of age. My life story was a successful adoption story, like most adoptions.
- There is no such thing as an unwanted child, only unwanted pregnancies. There are always people, usually people who cannot have children of their own (e.g., my adopted parents), willing to take on the responsibility of rearing a child (adoption).
- Give women who have unwanted pregnancies three choices – have the child and raise it yourself (and give women adequate welfare support, if it is required); terminate the pregnancy (abortion); give birth to the child and give it up for adoption. You never hear about the third option, in large part because the adoption system of the past was dismantled because there were atrocious examples of young women being forced to give up their child against their will. That was a reason to reform the system, not rid ourselves of it.
- There is more than one body (life) at stake in these situations. The fact that I'm making these comments is proof of it! A woman with an unwanted pregnancy who feels the same way as me – as did my birthmother, as I discovered when I met her for the first time three years ago – should not have her choices confined to struggling to give a child the best chance in life or having an abortion. There is a third way and women have a right to access it, just as my birthmother had access to it in 1964.
- My alteration to the statement implies that all women should have unfettered access to contraception and abortion services plus equal share in decisions that can lead to unwanted pregnancies. Abortion should be discouraged as much as possible by offering a first-class adoption system.
- Finally, the first half of the first sentence is really saying that there needs to be a transition to zero population growth, an essential feature of a SSE. This might not be clear to some people. Hence, I've added a reference to zero population growth in parentheses.

(8) Reform the national accounts: Maximum sustainable scale: Devise or adopt an existing macro-ecological indicator to ascertain where the current rate of throughput is in relation to the nation's biocapacity. Calculate and publish the regeneration rates of constituent renewable resource types (forests, fisheries, etc.) and the waste assimilative capacities of different ecological sinks (atmosphere, wetlands, etc.). Use the indicators to determine throughput caps as per the Cap-Auction-Trade systems (see policy (1)) to prevent the macroeconomy exceeding its maximum sustainable scale.

Optimal scale: Estimate the benefits and costs of economic activity. Separate the benefits and costs into individual accounts and allow a nation to employ various means to operate the macroeconomy at a scale that approximately maximises economic welfare – that is, where the marginal benefits of economic activity equal the marginal costs (optimal scale). Recognise that the optimal scale will be smaller than the maximum sustainable scale and can be achieved through the purchase and non-use of resource-access and waste-generation permits by governments (political markets) and/or the collective action of citizens (Cap-Auction-Trade systems).

Because distributional equity is important, the national accounts should prominently display social indicators, such as the Gini co-efficient of income inequality, labour underutilisation rates (underemployment as well as unemployment), and poverty rates.

Explanatory Comments for **Policy 8:**

- National accounts should be reformed to assist in steering the macroeconomy towards its optimal scale, which is a physical scale that maximises the economic welfare of the nation. Why bother having national accounts otherwise?
- The calculation of GDP should remain in the national accounts. There is nothing wrong with GDP. If you want a monetary measure of the physical goods and services produced by a nation (produced by domestically-located factors of production), which is an important piece of information, go no further than GDP. Simon Kuznets did a great job! The problem is how GDP is interpreted. GDP is a poor measure of national income and an even worse measure of economic welfare, as Kuznets pointed out and warned against.
- The idea of a SSE is built on the goals of ecological sustainability, distributional equity, and allocative efficiency, in this order of importance. This means that as much as it is desirable to operate the macroeconomy at the optimal scale (OMS), it is imperative that it does not exceed its maximum sustainable scale (MSS).
- The national accounts should indicate where the economy is in relation to its MSS. They don't at present. Whatever indicator is devised or employed, it must be based on ecological criteria. The information generated would be used to set the resource-use and waste-generation caps as part of the CATS to limit the macroeconomy to its MSS.
- Whilst operating at the MSS is good (most nations have a macroeconomy much larger than its OMS), operating at the OMS is better still. Since the OMS must be smaller than its MSS (something unsustainable cannot be optimal), the OMS is the best of all possible maximum sustainable scales. The OMS can be deduced by measuring the benefits and costs of economic activity. This is what the Genuine Progress Indicator (GPI) does. Contrary to what some people think, the GPI is an economic indicator. It is not an ecological indicator and therefore not a sustainability indicator.
- How might a nation move from a MSS, as defined by resource-use and waste-generation caps, to the OMS? There are two main ways. Firstly, a political party may campaign to buy up some of the permits auctioned each year (CATS) and simply not use them to reflect the interests of people willing to vote for such a party. Secondly, citizens could individually or collectively pool some funds to purchase permits (CATS) and not use them. These people pay for the privilege of reducing the physical scale of the macroeconomy below the MSS, as they should.
- You can now see why the use of CATS is more effective in modifying the physical scale of the macroeconomy than the straight imposition of resource depletion and pollution taxes. CATS allow a government to ensure the macroeconomy does not exceed its MSS. They also allow citizens to go further and reduce the size of the macroeconomy to meet their and society's welfare interests. They simply buy permits and refuse to use them, or they use the political process (democratic

elections) to get the government to do it on their behalf. Taxes simply penalise resource depletors and polluters. If a resource depletor and polluter is willing to pay the charge (tax), they can deplete and pollute to whatever levels they like. CATS deliver quantity certainty – nothing larger than the MSS (assuming the caps are appropriately set), and something smaller than the MSS if people are willing to pay for it or vote for a political party prepared to take the necessary action. Taxes cannot prevent rebound effects and therefore cannot deliver quantity certainty.

- Because CATS involve a government authority auctioning off permits, which means the full cost of resource extraction and waste generation is borne by resource extractors/harvesters and polluters, CATS deliver the same efficiency incentive as taxes (permit prices).

National accounts should display indicators reflecting inequalities, poverty rates, and other disadvantages. They don't at present. National statistical agencies conduct occasional studies on distributional and social issues. They should be conducted annually and appear front-and-centre in the national accounts

(9) Restore full employment: Restore the US Full Employment Act of 1945 and its equivalent in other nations to once again make full employment an *end* and the equitable distribution of a sufficient level of GDP through paid work as the *means* to achieving it. Un/under-employment is the price we pay for allowing some people to obtain financial claims on GDP that exceed their contribution towards its generation (economic rents) and currency-issuing central governments failing to fill the gap between anticipated spending (which determines the supply of the factors of production) and actual spending (which determines the demand for the factors of production). When the latter is less than the former, as is usually the case, there is unemployment.

Currency-issuing central governments should use their fiscal powers to ensure the full employment of all people wanting paid work by financing an employer-of-last-resort scheme (Job Guarantee). The Job Guarantee would offer employment at a minimum living wage to any person unable to secure paid work in the private sector and conventional public sector. The minimum wage would prevent government competition for labour with the private sector at award wages, which would otherwise drive up labour costs and be inflationary.

Also problematic in most countries is the current failure to equitably distribute the productivity gains from automation (which makes it difficult for workers to beneficially trade-off increased consumption with increased leisure); the favouring of a cheap-labour immigration policy (which places downward pressure on wages and working conditions); and the off-shoring of production induced by deregulated trade and the removal of international capital controls (which undermine the tax-shifting policies in part designed to encourage the employment of labour in value-adding activities). The implementation of policies (5), (6), and (7), together with a Job Guarantee, would increase the ease of achieving and maintaining a low-inflation form of full employment in a steady-state economy (a moral imperative under the banner of distributional equity).

Explanatory Comments for **Policy 9** :

- U/e is the price we pay for failing to distribute income equitably through paid work.

- It can be eliminated with the stroke of a pen. A currency-issuing central government (CICG) can always hire a person at a minimum living wage who cannot find paid work in the private sector or conventional public sector.
- Automation can only lead to u/e if it makes human beings obsolete. That will never happen. There are always enough useful, important, and essential things for humans to do for full employment to be achievable at any level of automation.
- Automation does not make humans less required but makes us more productive – it enables us to produce more with less time spent working.
- Useful and meaningful work is important, as Maslow's needs hierarchy informs us. We need work to satisfy some of our higher-order needs. Unemployment is the number one cause of mental illness and homelessness in Western society.
- Other than by luck, full employment cannot be achieved unless a currency-issuing central government is willing to fund an employer-of-last-resort scheme, which might best be called a 'Job Guarantee'. Policies (5), (6), and (7) would also help, for reasons given.

(10) Advancing just global governance: Seek world community as a federation of national communities, not the dissolution of nations into a single "world without borders." Globalisation by free trade, free capital mobility, and free migration dissolves national community, leaving nothing to federate. Such globalisation is individualism writ large – a post-national corporate feudalism in a global commons. Instead, strengthen the original Bretton Woods vision of interdependent national economies, and resist the World Trade Organisation (WTO) vision of a single integrated global economy. Respect the principle of subsidiarity: although climate change and arms control require global institutions, basic law enforcement and infrastructure maintenance remain local issues. Focus our limited capacity for global cooperation on those needs and functions that truly require it.

For example, the concept of the United Nations Framework Convention on Climate Change (UNFCCC) could be expanded to form a global governance institution to ensure the global economy operates within all nine identified planetary boundaries. A United Nations Framework Convention on Planetary Boundaries (UNFCPB) could be created with nine sub-conventions embodied in it, of which the UNFCCC would be one of them (e.g., United Nations sub-Framework Convention on Climate Change or UNsFCCC). Since the aim of the UNFCPB would be to cap the global rate of resource use and waste generation, the framework would be designed to allow national Cap-Auction-Trade systems – which would be administered locally – to neatly dovetail with the international system. The creation of a UNFCPB would extend the steady-state economic concept to the global level and increase the chances of the global economy operating within all nine planetary boundaries in a conciliatory, managed, and peaceful way.

Explanatory Comments **Policy 10** :

- I've used the full name of the World Trade Organisation because not everyone knows what the WTO is.
- You can omit the second paragraph if you like, but this is an idea of mine that I've had for some time. I think it is an important one. You may disagree. I believe a UNFCPB would increase the chances of achieving a global SSE in a conciliatory, managed, and peaceful way.

END