



The case for an Ecological Interest Rate

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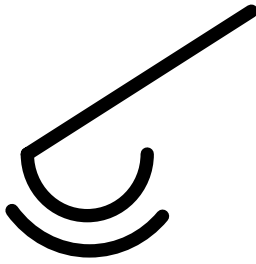


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The front cover graphic is the international meteorological symbol for ALTOCUMULUS at many layers (a chaotic sky).



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Introduction

“The cost of a thing is the amount of what I will call life which is required to be exchanged for it, immediately or in the long run.”

Henry David Thoreau, *Walden*

Between the Anglo-American political horror shows of 2020 and the raging coronavirus pandemic, something much less theatrical drifted centre stage to play a more than usually important role: interest rates. There is one obvious reason: like waiting to witness a rare celestial event there is a high likelihood that rates will do a shocking, unusual thing and go negative. But there is another important reason that hasn't, to date, been part of mainstream economic commentary. With more focus than ever on a green economic recovery the fact that there is no constructive connection between money, its cost and our ecological life-support system could, and really should, step into the limelight.

Always of concern to policy makers, interest rates tend only to capture the attention of the wider public if they have savings or a mortgage. If you have savings you'll be bothered by low interest rates, and if a mortgage high ones. For others, the issue is more 'meh', and the lack of interest in interest rates, so to speak, understandable. But, if you take even a passing interest in life's ecological foundations – and it would be careless not to – it is worth also considering an ecological interest rate.

An economy too big for its planetary boots

Let's apply a little macro-scale context and impose some simplicity where none normally exists to illustrate a problem and why it needs addressing.

Globally the economy has outgrown the carrying capacity of the biosphere, as a conservative, annual assessment of ecological overshoot makes clear. It is as if we are trying to shove size 10 economic feet into size 6 planetary shoes.

The size of the economy, in turn, is fuelled by the supply of credit, which may then take different monetary forms. More money in circulation tends to increase conventional economic growth – as measured by a rise in the narrow indicator, GDP – an increase in the monetary value of exchanges of goods and services. This doesn't necessarily mean the productive economy is getting bigger, and isn't always the case. For example, if banks lend money into existence in a risky way – such as happened with the sub-prime mortgage debacle behind the 2007-08 financial crisis – they can create an asset bubble which, when it bursts, can trigger recession.

Interest rates are the price paid for borrowing money, and when the price of money is positive, which it usually is, more has to be paid back than was actually borrowed. Hence interest, and especially compound interest (interest paid on the original sum borrowed and the accrued interest), also motivates orthodox

growth reliant, as it is, on an extractive model that exploits the biosphere and human labour.

An obvious but important aside is that the ecological impact of growth can vary wildly. To harness an extreme hypothetical case, it will be very different if your economy focuses on the expansion of coal mines as opposed to the sale of poetry books. Economies can be more or less materially efficient too, and improve over time.

Why efficiency will not save growth

What matters however with regard to an issue like climate breakdown is what happens in aggregate, and how this relates to any change in impact needed for the economy to operate within a particular planetary boundary – in effect, to fit its shoe size. And, to recap, we know that the economy's footprint is already too big. That means that in order to be environmentally sustainable, improvements in material efficiency within the economy must be big enough not only to compensate for effects of growth, but also to reduce absolute consumption in line with getting back to the right shoe size again.

For example, we hear a lot of hype about the improved fuel efficiency of aviation. But, between 2013 and 2019, aviation passenger traffic went up four times faster than fuel efficiency improved.

Elsewhere, the carbon emission benefits of supposedly efficient hybrid cars were shown to be only around one third of those promised. Globally, from 1990 to 2009, there was a period in which rising growth saw a 'relative' decoupling from the rate of resource extraction (and carbon emissions increase). From 2009 however, even this relative decoupling appeared to stagnate.

And several have written about the ‘[decoupling delusion](#)’. This debate has been playing out fiercely with regard to meeting internationally agreed climate targets.

Given the need for absolute reductions in greenhouse gas emissions, the issue is graphically revealed by the UN Environment Programme’s late 2020 publication of the International Resource Panel (IRP) Report, [Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future](#).

It found that emissions from the extraction and production of materials such as metals, minerals, woods and plastics more than doubled from 1995 to 2015, accounting for a full quarter of global emissions. And, while it acknowledged the scope for using various measures to dramatically improve resource efficiency, these did not come close to cancelling out the rise.

Global resource use continues to rise. In 2020 [it was reported](#) that for the first time consumption of resources passed the 100 billion tonnes mark. The figures related to 2017 and were heading sharply in the wrong direction, up from 93 billion tonnes just two years earlier in 2015. In addition, the amount of resources being recycled had fallen over the same period from 9.1 to 8.6 percent.

UN Secretary General Antonio Guterres recently spoke of humanity waging a [‘suicidal war on nature.’](#) That is borne out by the fact that global material use is projected to rise dramatically on current trends to 170-184 billion tonnes by 2050.

What is money?

Driving all this growth and increased consumption is, of course, our economic and financial system, with money and its price as lubricant and enabler. What can be done about it?

First, let's check and recap on our terms. What is money? The classic definition is that it is a means of exchange (you can swap it for goods and services), a store of value (you can keep it under the mattress or in the bank, and spend it now or later) and a measure of value, or unit of account (a huge range of things from ice cream to computer repairs and a wild-flower meadow can be compared, controversially some would say, by their price in a common currency).

However, and further elaborated below, not all types of money need necessarily perform all these roles. We tend to carry around fairly monolithic ideas about money in terms of variety of form (not much) and scale over which currencies operate (generally on a scale of national to global). But even before addressing how the invented money system might be better tethered to the real world of living, breathing ecosystems, there is a substantial critique that suggests even conventional, established economic systems would operate better if we embraced a more pluralistic approach to currencies. More of which below.

But, furthermore, what the definition above that can be found in countless textbooks glosses over, is that money isn't in essence a note or a coin or even an electronic digit ticking those boxes; but a social contract, the note or coin merely a crutch,

a reassurance upon which rests an agreement about how to allocate resources. And, one thing is very clear, the way in which our current money system is allocating resources, is pushing us rapidly over a climate and ecological cliff.

Of course, it doesn't have to be like this. However, without ways of tethering money to the limits of the biosphere we are in the grip of a fundamental contradiction. Because money is a social construct – ‘a promise to pay’, it cannot be finite. We can always make another promise. But the human or ecosystem's ability to fulfil that promise – to meet the liability – is finite.

The problem is that money, which was invented to enable us to do what we can and need to, has since been captured. The monetary system is a human invention, so we know that ‘we can afford what we can do’ to quote Keynes. If properly managed, it can be used to help bring about the huge transformation needed if we are to phase out fossil fuels in ten years' time. It can ease the switching of the economy from debt-fuelled overconsumption, to an economy that is better, not bigger, and rich in circular-economy services, education, the arts, care and quality of life. But an important part of making that happen will be the use of an ecological interest rate.

The next check is to ask, what is price?

What is price?

A price is what you pay, in money, in return for a good or a service. Prices are meant to be found where the lines on the graph of demand and supply cross. But rather than following the theory of perfect competitive equilibrium, the reality of how prices get set in markets is much more messy and varied. Often it is ‘cost plus’, or as the result of unspoken agreements in

markets with a few large, dominant players where prices are set in reference to each other at coincidentally similar levels.

Where some sectors are concerned which experience huge variations in demand at different times of the day or year, such as transport services for commuters or hotels during school holiday periods, algorithms are used both to even out demand and to profit during peaks when people have little choice about when they have to travel.

The economy relies on the price signal supposedly to 'allocate scarce resources' efficiently and ensure that markets meet people's needs. The price is meant to contain all the information you need to make the best decisions. But in practice, prices often don't carry vital information, such as the human cost of production, the impact on human health of consumption or current and future environmental damage.

There are also larger philosophical and practical issues that reveal the limitations of price as the crutch on which the economy rests. If someone was planning to build on a much-loved meadow, you could be asked two very questions, how much you would be prepared to pay to save it, or how much compensation you would demand for its loss. And, two very different prices for the land would result. One constrained by the ability to pay, the other could be infinitely high. It could have no price.

Prices are not just points on demand and supply graphs, but judgements of value. Take the price of the global warming gas, carbon dioxide. Over recent years it has traded for a few paltry Euros per tonne (from under 10 to just over thirty) in emissions trading schemes, but has been priced at hundreds of dollars when all its potential damage costs are included. How, for example, would you set the price of the notional tonne

of carbon which, when burned, tipped the balance towards irreversible, runaway global warming? You'd be asking, what is the price of a climate capable of supporting human civilisation. Many might think it had none, and was priceless. This is not an abstract thought exercise, given that Mark Carney, former governor of the Bank of England, has said that the financial sector is investing in fossil fuels such “that if you add up the policies of all of companies out there, they are consistent with warming of 3.7-3.8C”. Given the official climate target of keeping heating below 1.5C, the plans of finance to pay for a climate apocalypse makes the lack of healthy risk aversion during the sub-prime mortgage crisis seem but a blip.

A more important rate of interest

In daily economic commentary, we hear most often about ‘the’ interest rate, meaning the rate at which the central bank will lend to commercial banks. This can obscure the lived reality that there is, of course, in the real economy no single interest rate. From the current base rate of 0.1% available to commercial banks, to an example payday lender (the first I found on a quick internet search) offering loans with a staggering annual percentage rate of 1,301%. One straightforward example of how the poor always, and perversely, have to pay more.

Is it possible to imagine a world in which the money system, and the prices placed on money, operate in such a way that they help resize the economy to fit within planetary boundaries?

We can start from a standard, if unresolved, critique of currencies and interest rates and a central challenge for monetary policy. The problem with many currencies is that they are too big. They cover areas that are too large and include a great variety of economic circumstances for which no single interest rate can be optimal. Whether in a country the size of the US or the UK, and especially across the Eurozone, there are always some areas likely to be ‘overheating’ and others that are struggling. It’s a manifestation of what is often discussed as the centre-periphery problem. You cannot set an interest rate on currency zones this large that work for everyone – money is likely to be either too cheap in one place or too expensive in another.

This is why many have long argued for a greater plurality of currencies. But the potential for currency innovation goes well beyond its ability to tackle the question of sub-optimal currency zones. At one extreme, in the context of large-scale financial systems failures, in order to allow exchanges to continue taking place, communities and companies may simply create and issue their own currency. In the US for example, during the great depression of the 1930s, municipalities issued 'stamp scrip' currencies. Unused notes were cancelled after twelve months creating an incentive for them to be used and hence encourage economic activity. Big companies in remote locations like mining and logging areas also used types of scrip to pay workers when normal currency was hard to come by. Jump forward to Argentina and its millennial financial meltdown, and the aftermath of the 2007-08 crisis and a huge range of complementary, local currencies stepped up to bail out the failed mainstream system and allow local economies still to function. But complementary currencies also work when economies appear 'normal' and yet still manage to exclude people and fail parts of the economy. Place-based currencies like the city wide Bristol Pound (soon to become Bristol Pay) function to stimulate a local economy and prevent wealth leaking out of an area. The use of 'time dollars' – units of time as a type currency – in the youth court system was popularised by the economic innovator, Edgar Kahn, as an effective way to re-include marginalised young people, and time banking is used widely in the UK and elsewhere.

One way of reconnecting the money supply to the real world of natural resources is to have currencies which are backed by something real – like one or more commodities.

Commodity-backed currencies have a long history, but also a reputation long-tarnished by the failure of the gold standard. The basic critique of them is their lack of flexibility – effectively

limited in supply by their nature. Since President Roosevelt took the US out of the gold standard to be able to increase the money supply it has been forever associated with being a cause of depression (Roosevelt also took the US off the gold standard to strip Wall St. of the power to set interest rates, and put a democratic government, not Wall St. in the driving seat of the economy).

But interest in commodity backed currencies has risen recently, and in one area in particular where part of the very purpose is to control and reduce the use of that commodity. This is the case of carbon and energy consumption. The potential for energy currencies has become a sub-genre for new economic exploration. None provides a simple, unproblematic alternative to current (problematic) forms of money. But several show potential for sectoral application in such a way that 'could' embed a more ecological economic trajectory, and could be issued in such a way that, when issued could also address economic inequality (think various ways of providing universal income and/or services, such as access to energy, and built-in incentives to veer away from carbon use).

Another way in times of crisis of making money serve the real economy and 'reconnecting' it to the world, has been to make it behave more like other commodities which tend to 'rust' or go 'mouldy'. The prospect of negative interest rates is in the news again, but they have a history going back over a century, at least to an Argentinian trader called Silvio Gesell. Presciently given the century that followed, in 1913 Gesell argued that it would always be easy to 'make money from money' rather than doing something useful and productive with it. But he argued a negative interest rate – making the money in effect 'rust' – would make pure financial accumulation a losing game. Your money would shrink if not used. For a time during the Great Depression in the United States and famously in a town called

Wörgl in Austria, the idea was grabbed and put into practice. An estimated 300 US communities used what became known as ‘stamp scrip’. Although it was widely ruled-out later by central banks who felt their authority threatened, negative interest rates have been used more recently. The Swiss used them in the 1970s for stabilisation, Denmark and Sweden were early adopters of negative rates in the aftermath of 2008 crisis, with several European countries following suit along with Japan.

Where does all this leave us in thinking about what an ecological interest rate might look like? In very big picture terms it is worth going back to the basics of what monetary policy is meant to do – essentially to warm things up, or cool them down (more than appropriate given the threat of global heating), depending on the needs of the economy at any particular time, and help actively manage the system in the interests of society and ecological health. It’s a sign of the times that alongside the base rate on the Bank of England’s website, the large scale public creation of money (quantitative easing) has gone from being a seemingly exotic tool to one so standard that it now sits as one of the two default tools of monetary policy. The magic money tree has set down deep roots.

Some of the challenges monetary policy faces day-to-day relate to the many issues above, not to mention also persistent democratic deficits in its exercise. Democratising the production of money appears a prerequisite of progress.

It’s also worth setting certain limits to the ambition of what monetary policy can do in tackling the climate and ecological emergency. Ultimately overuse of the biosphere requires the setting of quantitative limits on the consumption of resources to prevent climate breakdown and ecological collapse – most economic tools merely influence behaviour (you might say ‘nudge’) one way or another, and can’t guarantee such outcomes.

But, this still leaves quite a lot of room for action. If it's a case of warming some things up and cooling others down, the obvious approach is to make money expensive and hard to access for what you want less of – such as high carbon goods and services – and cheap and easily available for what you want more of – such as clean, community owned renewable energy and mass, home retrofit programmes and public transit systems. It's basically the same principle as for good taxation policy, namely – tax more what you want less of, and less what you want more of.

Where monetary policy is concerned it points to the need for greater conditionality on access to credit. Thinking back to Mark Carney's observation that banks currently have portfolios of investment that will push catastrophic global heating of around 4°C, then the cost of borrowing should be made much higher for those banks and other investors who are actively investing in coal, oil and gas, and fuelling the crisis. Differential rates are a reality in the wider economy, partly in respect of risk, why not at source?

An ecological rate of interest would price money in terms of environmental limits, covering what the rate of interest is – the price of money, including 'the time value of money' and thus the discount rate and the privileging of the present over the future.

Currently, the rate of interest rarely if ever includes ecological impact. In slight and fragmented fashion a few banks are slowly beginning to incorporate so-called ESG factors (environmental, social and governance), pushed by social movements arguing for fossil fuel divestment. A few are ceasing lending to some of the most climate damaging activities such as coal mining, and varying the cost of capital to reflect environmental risks in oil and gas for example. But these developments don't even scratch

the centrality of the interest rate in allocating the trillions of capital in the economy.

Even within the scope of already available mechanisms, however, there are practical ways to implement the principles under discussion here.

Banks have to hold certain amounts of capital against the lending they do. These so-called ‘capital adequacy requirements’, are set in Basle by the Bank for International Settlements and are set according to the risk weighting of loans. Levels of risk weighting appear quite simple, depending on who is lending to whom and for what activity they typically range from 0% (not at all risky) – 150% (very risky). In practice how the requirement is met can be far from straightforward. Over time and depending on attitudes towards risk the ratio of how much money banks have to hold against their lending, and how they measure it, changes.

In the light of the climate emergency, and especially where large banks are concerned, it would be possible to adjust the risk weighting of lending to fossil fuels so that more capital would need to be held against it. Conversely clean energy loans could carry very low-to-zero risk weightings. Currently banks only have to hold the same whether lending to renewable or fossil fuel energy projects. In other words the cost of debt to the big oil and gas companies is the same as to the major renewable power companies.

But because the system is already set up, and because big companies are already pre-categorised for their type of activity under a system of standard industrial classification, by things like their listing on exchanges such as the FTSE, it could be made simply ‘automatic’. Hence renewables might, for example, attract a risk weighting of 20% or less (possibly aided

by government guarantees as essential support for a green industrial policy), and fossil fuels a new higher rate of, say, 200%. In practice this would mean that when Company Green – focused on renewables – goes to the bank, with all other costs and the bank's expectations of making a return being equal, it will pay a much lower rate of interest compared to Company Brown working in the fossil fuel sector.

The cost of capital is key and also highly variable in the energy sector. Crucially it is more expensive for renewable energy in the Global South. Also, it is precisely those areas which need an investment boost for renewables which have the least developed financial sectors. While investment decisions are 'shaped by complex factors', the International Energy Agency (IEA) concludes that 'current market signals are not incentivising the major reallocation of capital needed to reach the goals of the SDS (the IEA 'sustainable development scenario')'.

At one end of the market for selling money, after outrage at the predatory pricing by so-called payday lenders, a modest interest rate cap was introduced in 2014 in the UK. And, most countries have 'usury laws' to control the upper limit of how much interest can be charged. But, of course, that logic could be flipped, and states could insist on a higher, minimum rate to be applied to money lent to fossil fuel companies.

Immediate and profound intervention is needed to influence energy investment patterns.

At a more household level, high carbon lifestyles have been locked-in by the easy availability of credit which actively incentivises them and makes them attractive. The highly evolved system of car finance is a major example. But, with everything that we know, say, about the human health and climate impacts of SUVs and diesel cars why are banks allowed

to lend for their purchase in such a way that people don't even think twice? The risk weighting of loans to petrol and diesel engine cars could similarly be top rated. In this way high carbon loans become less attractive to the lenders making them and more expensive to borrowers.

One of the other many current hidden subsidies to commercial banks in the UK is the public guarantee of individual depositors. The state deposit guarantee scheme means that the first £85k for every saver is insured by the government – if the bank goes bust, you still get your money back. It's a huge public underpinning of private backing. In return – as a quid pro quo – a government that is serious about its climate policy could determine that those deposits – cheap money for the banks – could only be used for investing in the public good, and prevent them going towards high-carbon activities.

Where important social, ecological, economic and cultural tasks are concerned money, unlike other 'resources', is not scarce. And so its price can and should be very low or zero. But where ecologically damaging activities are concerned the opposite should be the case.

A new approach is needed for both private and public rates of interest. Central banks and supervisory monetary authorities have as their core mandate the maintenance of financial and monetary stability, acting to prevent the allocation of vast financial resources into climate breakdown, with its catastrophic implications for humanity and the wider economy, is therefore directly aligned with their fundamental purpose. As Prof Nick Robins of the LSE's Grantham Institute puts it, 'Beyond 1.5°C, the ability of central banks and supervisors to control climate risks and macro-economic stability will become progressively impaired, threatening the functioning of the financial system.' Agreed targets for a net zero economy by 2050 provide a

framework (even if, as many argue, the ‘net’ of net zero allows for far too many unproven or dubious ‘get out’ technologies). The role of green finance in ‘building back better’ post pandemic also creates a new forum for action.

In 2019, the Bank of England took one step, and bowing to pressure announced that it would disclose how it managed its financial risk. It’s also been argued that a precedent for greater central bank action was their use of macro-prudential policy to tackle the failure of the mortgage market behind the 2008 crisis. It is a short step from using such powers, ‘to reign in those activities that lead to bubbles, cyclical swings and economic shocks’ to using an ecological interest rate to tackle climate risk.

With all this in mind a new world of necessary conditionality on loans opens up, along with the need to realign the cost of money with the imperatives of environmental limits. There are opportunities also to correct some recent mistakes made – ‘false starts’ – in creating a financial infrastructure to invest in low carbon transition.

After the disappointment of the UK’s original Green Investment Bank, sold to the Australian bank Macquarie (ironically a major financier of coal and fracking projects), there have been calls for a replacement, and in late 2020 the Chancellor, Rishi Sunak, confirmed plans for a new National Infrastructure Bank. If the latter were given a solid mandate to invest in a low carbon, rapid and socially just transition for the UK, one option for its capitalisation would a more intelligent, targeted use of the Bank of England’s second tool, QE.

From an ecological perspective, one of the problems with all stimulus spending, even green stimulus spending, is that it can result in a general increase in consumption which places further pressure on the biosphere. For example, you might spend on the

role out of a massive new vehicle electrification programme, but the benefit of that to your climate goals would be undermined if the people doing all the additional work to build it, used their new pay to go on long haul flights or buy high carbon goods.

Something more is needed which goes beyond a greener money supply, something which deals with the aggregate size of the economy. Governments setting GDP growth rate targets is problematic for many reasons. But could there be an ecological growth rate? Admittedly this is difficult because, as already noted, the global economy has already outgrown the regenerative and waste absorbing ability of the biosphere. Yet, there is a nascent consensus among a wide spectrum of progressive voices about how a range of economic and social problems could be addressed at the same time as moving away from a growth dependent economy.

And, were we to make a rapid, just transition, to live within our ecological means (and the potential for radical policy and behaviour change has been widely demonstrated by responses to the coronavirus pandemic) what might it mean to align the economy with planetary boundaries?

The science of climate change is sufficiently developed to, for example, say that we should be aiming to return to a carbon concentration in the atmosphere no higher than 350ppmv CO₂, a vibrant global campaign has developed around this goal. Others think it should fall further to the levels prevalent at the start of the industrial revolution, around 280ppmv. An ecological growth rate would then be one compatible with the stabilisation of greenhouse gases at least no higher than 350ppmv. Or, take something else fundamental to our livelihoods and survival, the soil in which we grow our food. Soil is depleted through use, more so the less enlightened the farming practices, but it is a 'slowly renewable' resource.

A viable ecological growth rate for the economy would aim to align with the process of soil formation – which would vary with regard to rates of loss under different, more or less ecological farming regimes. Rates of forest regeneration would be another measure.

But there's an ecological wild card that explains, given our current overreach of biocapacity, the importance of absolute reductions in consumption, and why economics needs to integrate a better understanding of ecology. Things like money and debt are human constructs. If a business overreaches and goes bankrupt, another (often with the same players involved) can pop up elsewhere. And, a debt can be just written off. Not so in nature. Marine biologist Andrew Price points out in his book *Slow-Tech*, describes the impact of commercial fishing and how, compared with pre-industrial levels, 90 per cent of large predatory fish have been lost from the world's oceans and that loss can be a one way ticket. A study looked at twenty-five commercially targeted fish stocks pushed into decline then left to recover. After fifteen years only 12 per cent made a 'full recovery', 40 per cent of the stocks failed to recover at all.

Just as this essay was nearing completion, the UK government through HM Treasury published *The Economics of Biodiversity: The Dasgupta Review*. Lauded in some circles as a breakthrough in official recognition of the need for economics to more fully take account of its reliance on finite nature, it was also condemned by others for seeming to promote the potentially destructive financialisation of ecosystems. Both of these points of view can be true. The review is big, running to over 600 pages. Depending on which perspective you are closer to, it could be viewed either as a late, official admission of the need to change course radically, or the next, logical, predatory step of financial interests.

One point it does concede very clearly, however, is that large parts of nature need removing from the price-based market system altogether. “In light of the non-linearity of ecosystems,” it observes, “quantity restrictions are a more effective policy approach than pricing mechanisms,” and quantity restrictions meaning setting aside large parts of the biosphere from exploitation and hard limits on extracting from nature and pouring waste into it. Figures of between 30-40% of land and sea areas needing protection are mentioned.

Tethering finance to the real world

This might seem to have travelled a long way from how interest rates find themselves very much in the policy spotlight. But the reason for speculating about terms such as an ecological interest rate, or an ecological growth rate, is that in spite of raised awareness, there is still at the heart of the mainstream economic conversation at worst a constructed absence concerning our absolute dependence on a viable ecology, and at best a sense that ‘green’ is just another issue to bear in mind. Where the financial system is concerned at least three decisive shifts are needed. One, a cultural shift within banking, has been much discussed, partly perhaps because it is attractively easy by doing so to create an impression of action.

But it is vague and its material impact hard to measure. Second is the overdue, needed shift in policy and regulation, more touched upon above, which can, at a stroke, make bad things harder and more expensive to do, and good things easier. The final shift acknowledges the limitations of the other two. There is a need for a fresh, new set of financial institutions – ranging from regional banks, to mutuals and a real, national green investment bank – whose primary purpose is to enable an economically beneficial and socially equitable low carbon transition.

A new language is needed to tether the economics discipline to the ‘real’, real world of soil, air, forests, oceans and, simply, ‘life’. We need constant, daily reminders and that will only happen

if the measures and terms of economic debate are anchored in ecological reality. This is an invitation to experiment with how far, and how fast we can reshape the economic conversation to achieve that. If we can realign the language and terminology with the biosphere, the economy itself might follow and raise its level of interest with what really matters.

Selected sources

Bank of England chief Mark Carney issues climate change warning (BBC) <https://www.bbc.co.uk/news/business-50868717>

Bank of England, *Monetary Policy*
<https://www.bankofengland.co.uk/monetary-policy>

Bank of England, Bank of England to disclose assessment of how it manages climate-related financial risk in the 2019/20 annual report

<https://www.bankofengland.co.uk/news/2019/april/boe-to-disclose-assessment-of-how-it-manages-climate-related-financial-risk>

David Boyle, *Beyond yes and no – a multi-currency alternative to emu* (2003), Nef

https://www.newweather.org/wp-content/uploads/2020/12/David-Boyle_beyond-yes-and-no-a-multi-currency-alternative-to-emu-1.pdf

The Bristol Pound, www.bristolpound.org

Chenet, H., Ryan-Collins, J. and van Lerven, F. (2019). *Climate-related financial policy in a world of radical uncertainty: Towards a precautionary approach*. UCL Institute for Innovation and Public Purpose

<https://www.ucl.ac.uk/bartlett/public-purpose/wp2019-13>

Circularity Gap Report (Circle Economy)

<https://www.circularity-gap.world/2020>

Taking the Carbon Out of Credit: An integrated approach to removing climate emissions from lending (Climate Safe Lending Network)

<https://www.climatesafelending.org/taking-the-carbon-out-of-credit>

The decoupling delusion: rethinking growth and sustainability (The Conversation) https://theconversation.com/the-decoupling-delusion-rethinking-growth-and-sustainability-71996?utm_source=twitter&utm_medium=twitterbutton

Richard Douthwaite (1996) *Short Circuit: Strengthening local economies for security in an unstable world*

The Economics of Biodiversity: The Dasgupta Review. (HM Treasury)

<https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>

Earth Overshoot Day (Global Footprint Network) <https://docs.google.com/document/d/1jIz2Svdo9K09dgnhQnIt7zsC-B1xjUX94t0ccivaQJo/edit>

Daily EU ETS carbon market price (Ember)

<https://ember-climate.org/data/carbon-price-viewer/>

Isky Gordon, *Universal Basic Income & Universal Basic Services: How can we bring them together?* (Compass) <https://www.compassonline.org.uk/universal-basic-income-universal-basic-services-how-can-we-bring-them-together/>

The Role of a UK National Infrastructure Bank in a Green Recovery, Green Finance Institute

<https://www.greenfinanceinstitute.co.uk/wp-content/uploads/2020/12/GREEN-FINANCE-INSIGHTS-PAPER-1.pdf>

CO₂ emissions from commercial aviation: 2013, 2018, and 2019 (ICCT) <https://theicct.org/publications/co2-emissions-commercial-aviation-2020>

IEA, *World Energy Investment 2019*
<https://www.iea.org/reports/world-energy-investment-2019/financing-and-funding-trends>

IEA, *World Energy Investment 2020*
<https://www.iea.org/reports/world-energy-investment-2020/energy-financing-and-funding?>

Decoupling material use and economic performance (materialflows.net) <http://www.materialflows.net/decoupling-material-use-and-economic-performance/>

Plug-in hybrids in new emissions scandal as tests show higher pollution than claimed (Transport & Environment) <https://www.transportenvironment.org/press/plug-hybrids-new-emissions-scandal-tests-show-higher-pollution-claimed>

Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future (2020) International Resource Panel (IRP), UN Environment Programme. <https://www.resourcepanel.org/reports/resource-efficiency-and-climate-change>

Humans waging 'suicidal war' on nature – UN chief Antonio Guterres (BBC) <https://www.bbc.co.uk/news/science-environment-55147647>

Energising Money: An introduction to energy currencies and accounting (2013) Nef, https://b.3cdn.net/nefoundation/d5efb739f3fb9a137c_q2m6y7916.pdf

Ann Pettifor, *To really 'take back control', democracies must reclaim power over the production of money*

<https://blogs.lse.ac.uk/politicsandpolicy/the-production-of-money/>

Sargon Nissan, Stephen Spratt, *The Ecology of Finance: An alternative white paper on banking and financial sector reform November 2009*, Nef

<https://neweconomics.org/2009/11/the-ecology-of-finance#:~:text=In%20this%20alternative%20White%20Paper,and%20a%20more%20balanced%20economy>

Rapid Transition Alliance, *Stories of change*: www.rapidtransition.org

Bjarne Steffen, *Estimating the cost of capital for renewable energy projects*, *Energy Economics*, Volume 88, 2020
<https://www.sciencedirect.com/science/article/pii/S0140988320301237>

Beth Stratford, *Green growth vs degrowth: are we missing the point?*

<https://www.opendemocracy.net/en/oureconomy/green-growth-vs-degrowth-are-we-missing-point/>

Dr Rhian-Mari Thomas, *The UK needs a second green investment bank to help investors decarbonise* (Green Finance Institute)

<https://www.greenfinanceinstitute.co.uk/the-uk-needs-a-second-green-investment-bank-to-help-investors-decarbonise/>

What is time banking, Time banking UK, <https://timebanking.org/howitworks/>

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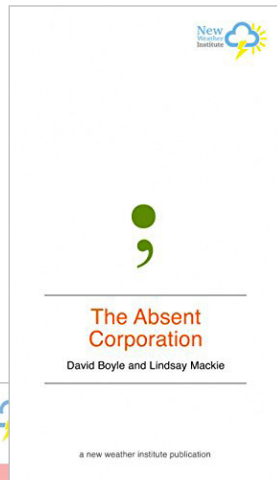
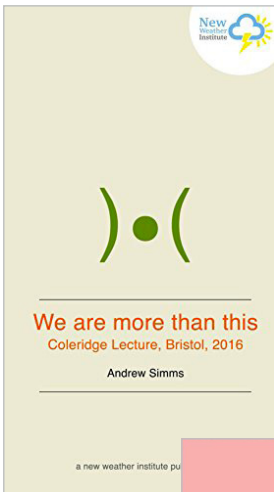
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