Communicating and combatting the crisis in nature: Learnings from 40 years of science-based campaigning

Jeremy Leggett

Blue Planet Prize Commemorative Lecture

Extended white paper version of the 30 minute lecture delivered Tokyo 30th October, Kyoto 1st November 2025

EXECUTIVE SUMMARY

Fixing climate meltdown and biodiversity collapse are essential if we want a liveable future.

But if we are to do this, at the same time many people who don't even recognise these existential threats as real will need to be shown realistic routes to a better life: a future with higher incomes, affordable housing, healthier economies, and more.

My years of campaigning have shown me that both these things can be done simultaneously, in principle, via projects that show the way: solutions exemplars.

Actual and potential examples of solutions exemplars are all around us in the modern world. My favourite combines forests, nature restoration and timber buildings. **I think of it as a Nature Prosperity Pump.**

In essence it is simple. We grow and restore far more forests than we have today. We do that in ways that enhance biodiversity, not deplete it. We harvest the timber sustainably, planting and regenerating more trees than we fell. We use the timber in off-site constructed, flat-packed, buildings of so-called Passivhaus standard. (Think uniquely comfortable buildings with low or zero energy bills).

Some nations do elements of all this already, not least Japan. But we need to do it on a massive scale, in multiple countries.

If we do, we bring into play a vital tool to help fix climate, because each cubic metre of wood contains around a tonne of carbon dioxide pumped out of the atmosphere. Put the wood into buildings and carbon storage can be almost guaranteed long term, because wooden buildings can be recycled. Along the way we help stop and reverse biodiversity collapse because we plant and manage the forests in ways that do that.

Crucially, we show everyone, including those who deny the crisis in nature, a clear route to a job-rich future in a nature-based economy, where prosperity grows and inequality can be slashed.

Why is that last bit vital? Because democracy is under dire threat in the modern world. Anger over rampant inequality is doing much to drive the threat.

Historically democracies have done most of the leadership whenever and wherever environmental protection measures are brought in. So failure to protect democracy is increasingly failure to protect the planet. Nature Prosperity Pumps will help in this.

INTRODUCTION

Communicating and combatting the crisis in nature – led by the twin existential threats of climate meltdown and biodiversity collapse - is the defining imperative of our times. I have been working on this since the 1980s. My brief for the Blue Planet Commemorative Lecture is to distil the top learnings from my experience. I have done so with the aim of connecting the takeaways I distil, turning them into a linear narrative that helps me build a beacon for hope, appropriate for our times, with which to end the lecture.

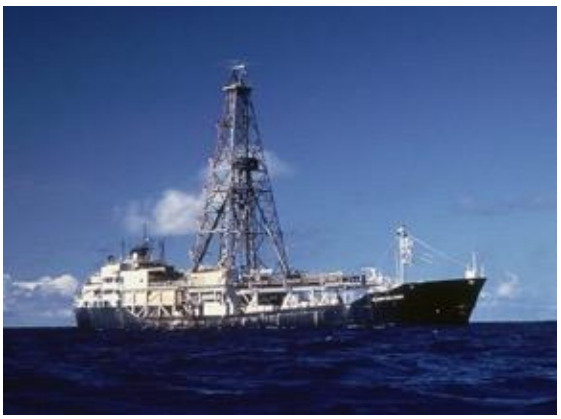
I have added an annex, extrapolating from the lecture to describe how Scotland might be the perfect place for such a beacon.

There have been five phases in my vocational life, all variously relevant to the crisis in nature. I began as an earth scientist, on the faculty at the Royal School of Mines from 1978 to 1989, researching the geological history of our planet. I often worked in Japan, with Japanese geologists, in those years. I drilled off Japan with Japanese and international scientists on the drill ship you see in the picture, the Glomar Challenger.

My research on the geological history of oceans led to a deep and early concern about climate meltdown. I began working on climate full-time in 1989. As such, I attended almost all sessions of the global climate negotiations from 1990 through to the 1997 Kyoto Climate Summit, where the world's governments finally agreed a meaningful treaty, against expectations: the Kyoto Protocol.

In 1983, towards the end of the Cold War, I founded a think tank for scientists who believed that arms control treaties could be verified confidently. This, the Verification Technology Information Centre, still exists today. It has since added the verification of environmental treaties to its remit.

THE FIVE PHASES



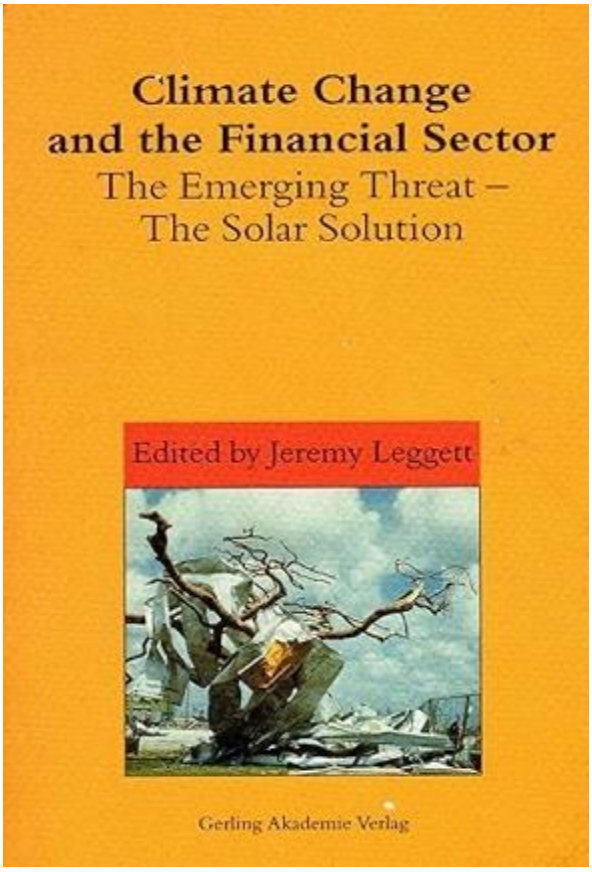
1. Earth history, 1978-1989
Royal School of Mines, Imperial College of Science and Technology

2. Arms control, 1983 to 1989
Verification Technology Information Centre (VERTIC)

In 1996 I switched from campaigning in and around multilateral negotiations and national policymaking to campaigning in a vitally relevant market. I entered the business world and set up Solarcentury, a company that helped create the solar revolution, and rode a rising global tide of solarisation.

In 2020 I set up Highlands Rewilding, a company that aims to help grow another market vital to a liveable future, the currently embryonic nature-recovery market.

I will now distil my top 20 learnings from this journey.



3. Climate change, 1989 – present
Greenpeace, Solarcentury,
Carbon Tracker, Highlands Rewilding

4. Solar energy, 1996 - 2020
Solarcentury and SolarAid

5. Nature recovery, 2020 - present
Highlands Rewilding

1. We who recognise the crisis in nature have had our successes: in particular, almost all the world's governments have signed nature treaties with ambitious targets.

On climate meltdown, the Paris Agreement of 2015 – building on the Kyoto Protocol of 1997 - includes an ambitious target of keeping global average temperatures below 1.5 degrees Celsius. This has led among other things to a price on carbon. On biodiversity collapse, the Kunming-Montreal Framework of 2022 includes ambitious goals of halting biodiversity collapse by 2030 and reversing it by 2045. This has begun to lead to a price on biodiversity uplift.

However, broader developments in global society in the years since these treaties have put brakes on action consistent with the agreed targets, by both governments and corporations.

Reasons for this slow progress are clearly visible in the world around us. My next two learnings describe one of the biggest.

2. For decades the oil and gas industry has been very innovative in the ways it has kept society locked into dependency on its products.

Compelling evidence for global overheating became particularly clear in 1990, when the first scientific report of the Intergovernmental Panel on Climate Change was published. In the 35 years since, it has become increasingly clear both in the scientific understanding and in the increasing physical manifestations of a climate in meltdown. But this has done little or nothing to slow the oil and gas industry's innovation in the extraction of its products.

An oil exploration team I led in Baluchistan, 1983

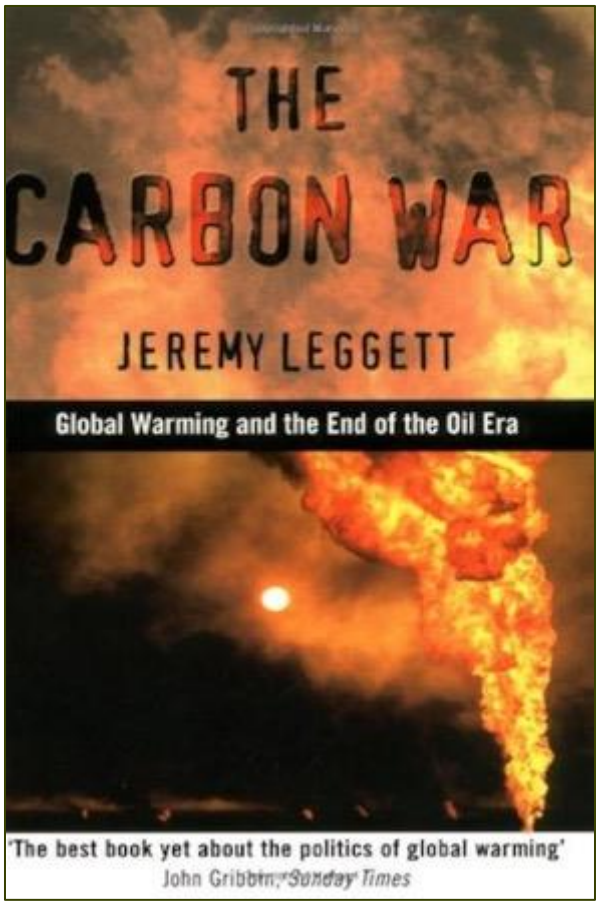
For example, when I was a consultant to the industry I researched a rock called shale, funded by BP, Shell and others. Before my concerns about climate crystallised, I also explored for oil and gas. At that time, shale was a source rock. Since then, because of the development of fracking, shale has become both a source rock and a reservoir rock. And so we read of shale, on the front cover of Time magazine – fully 14 years after the negotiation of the Kyoto Protocol climate treaty sent a clear message to the oil and gas industry that it should begin an orderly retreat to clean energy – that "this rock could power the world." No reference to sabotaging the future in so doing.

2011

How has the oil and gas industry managed to defend its products so effectively, and mercilessly?

3. The fossil-fuel industries have conducted a malign rearguard campaign rooted in disinformation and worse ever since climate talks began in 1990.

I witnessed this close to, in and around the climate negotiations between 1990 and 2000, and chronicled what I saw in a book, "The Carbon War."[1] My later books continued to record this sad story. Since 2000, as the science of climate change has become ever clearer for those with the eyes to see, the tactics of the fossil-fuel rearguard have become ever more malign.

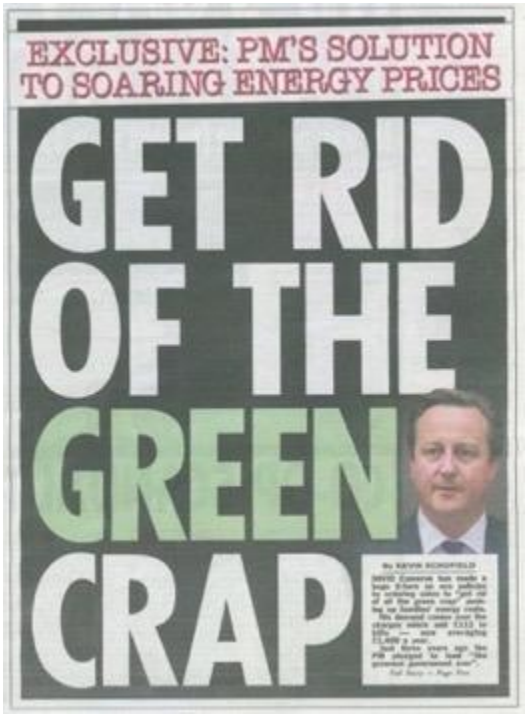


Much use has been made of the ability of the world's largest PR agencies to manipulate public opinion on a massive scale. Those skills have been directed towards active disinformation, on the instructions of the oil companies and other elements of the fossil-fuel industries. There is an abundance of evidence for this, much of it confessional. In my own case, for example, a guilt-ridden senior executive in a global PR agency, working for some of the biggest oil companies, told me "they are using black arts to try to kill you." He meant my side of the false debate that the PR agencies were charged with whipping up.

The fossil-fuel industries have not done this in isolation, however.

4. Many politicians have helped the fossil fuel industries continue to defend the status quo, notwithstanding mass public anguish about climate change.

The use of disinformation by politicians and governments in the 21st century has become so common that many refer to the times we live in as "the post-truth world." I offer one small but depressing example to make my point. The picture shows the front page of a UK newspaper from February 2015. It refers to the solution proposed by a British Prime Minister to the problem of soaring energy prices. He blames the problem on the solution. Clean energy doesn't drive high prices: fossil fuels and nuclear do that. Use of this kind of false meme by populist politicians has become completely routine in the post-truth world.


EXCLUSIVE: PM'S SOLUTION TO SOARING ENERGY PRICES

GET RID OF THE GREEN CRAP

Despite a constant blizzard of this kind of disinformation, however, many people nonetheless see the truth. Opinion polls show overwhelming global support for stronger government action on climate change. For example, the United Nations Development Programme's 2024 Peoples' Climate Vote statistically represents 87% of the world's population. It found that 80% of people globally want this action.[2]

This level of concern is regularly expressed in street protests such as the international childrens' climate strikes in recent years.


Guardian

Children take to streets in UK-wide climate strike

Simple winter pasta dishes

Feast

Oscars special

This clash of belief systems goes far beyond mere differences of opinion. The economic stakes if we follow the course the deniers advocate are incalculable. My next learning makes that point.

5. The capacity for nature-related denial is breathtaking. Business reporting and electoral cycles allow mega risk to be ignored.

Two examples. All around the world infrastructure is being built on coastal plains, even adjacent to beaches, as though sea-level rise projections from climate change, and the prospect of superstorms of increasing intensity, don't exist. This includes installations capable of dire pollution impacts if flooded, such as oil refineries and nuclear power plants.

Then there are the tipping points that climate scientists worry about – the so-called "carbon bomb" phenomena that hold the potential to amplify climate meltdown via feedback effects. The feedback that I personally worry about the most involves methane hydrates, having drilled into one in my time as a geologist. Hydrates are ice-like solids that can trap huge quantities of gas under pressure in strata. As temperatures rise, they destabilise, releasing the gas. This is a particular problem where they are shallow, as is the case in the Arctic.

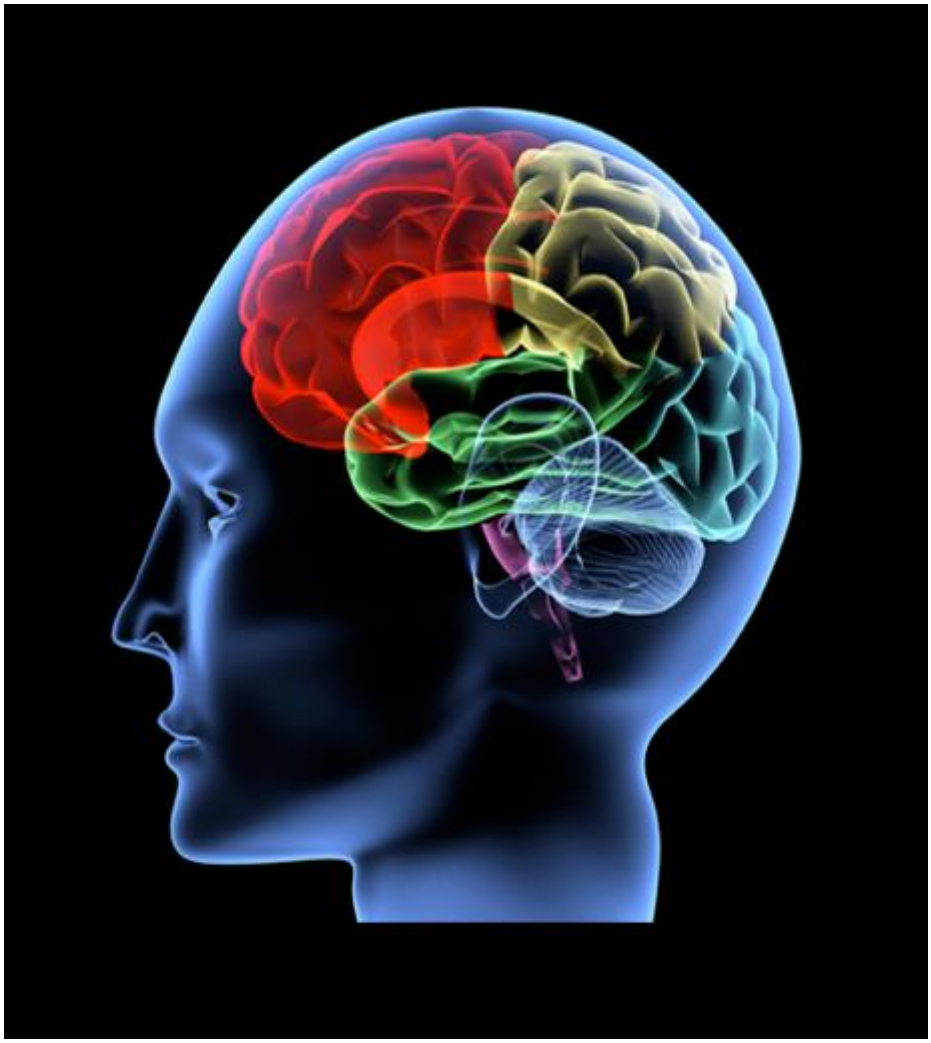
Communicating clear, present and growing dangers like this is unfortunately made difficult not just by the falsehoods that the incumbencies spin, but by the very structure of the human brain.

6. Communicating and combatting the crisis is made more difficult by what neuroscientists have discovered about rational thinking.

The task of communicating the risks we are running by slowing down policies that can meet treaty targets for combatting the crisis in nature would be difficult enough in a society where everyone engaged in rational debate that led to logical consensual outcomes. But we do not, as the research of neuroscientists have shown us in multiple studies this century. As Dan Ariely puts it in his seminal book Predictably Irrational – The Hidden Forces That Shape our Decisions: "Standard economics assumes that we are rational... But….we are far less rational in our decision making... Our irrational behaviors are neither random nor senseless - they are systematic and predictable."[3]

This is a sobering constraint on room to manoeuvre for those who seek both to defend liberal democracy and communicate and combat the crisis in nature.

But thankfully the constraint is not universal, as the next learning demonstrates.



7. Rational arguments can prevail. A recent example could well pose major problems for the defenders of ruin going forward.

In July 2025, the International Court of Justice's 15 judges unanimously ruled that governments must act "with the highest ambition", compatible with the Paris goal of limiting global heating to 1.5 degrees Celsius. Crucially, liability for not doing this should attach both to a nation's own emissions and those of companies in the nation.[4] As a result, courts worldwide will now be much less inclined to shrug off claims for damages against governments or companies that delay decarbonisation.

'We were heard': the Pacific students who took their climate fight to the ICJ – and won

In a packed court thousands of kilometres from home, Cynthia Houniuhi saw years of work come to fruition with the landmark ICJ opinion on climate harm

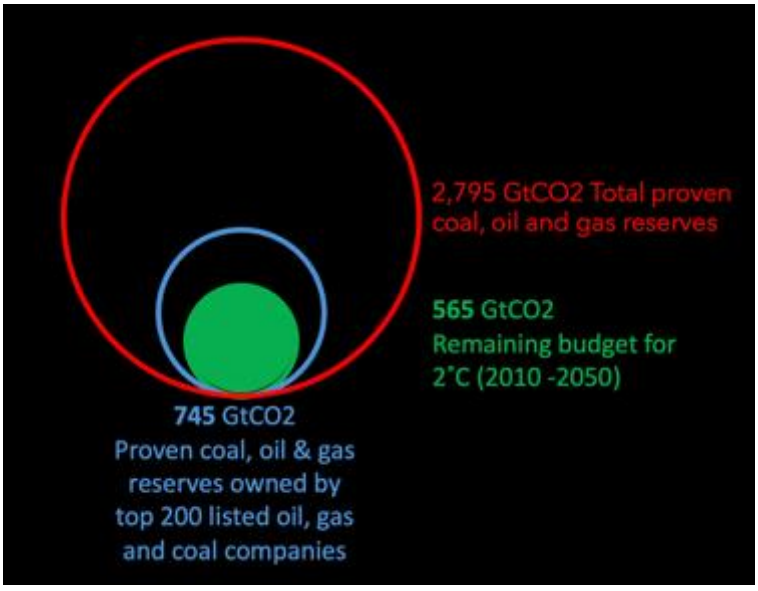
Accordingly, investors will feel the need to be considering the threat of potential carbon liability as a much higher risk in any investment prospect. In that may well lie a vital lever in the achieving of carbon emissions reductions.

Just as the campaign that led to this ruling can inspire hope for progress through courts around the world, so can another highly successful campaign, this time in in the capital markets, as my next learning recounts.

8. The non-government organisation Carbon Tracker had great success with the so-called carbon-bubble argument by using the language of the capital markets.

Carbon Tracker is a think tank of financial analysts who argue that the world's financial markets are carrying a carbon bubble because of climate change. Their first report, in 2011, demonstrated that if global heating is to be kept to 2 degrees Celsius, the remaining budget for burning would be only 565 gigatonnes of CO2. They mapped 2,795 GtCO2 in total proven coal, oil and gas reserves. The overshoot is counted on balance sheets as assets, but is essentially unburnable if climate meltdown is to be combatted. As such, these assets are in grave danger of becoming stranded, with massive loss of value, and inherent risk of a shock able to crash the financial markets.[5]

In my experience, no non-government organisation has ever had an impact as seismic as Carbon Tracker has had with its stranded assets thesis. Fossil fuel investment - particularly for new oil and gas - is today essentially in the process of collapsing, and we can see Carbon Tracker's fingerprints all over this.



The next learning is a particularly important example.

9. Key financial-sector figures persuaded by the carbon bubble argument played a major role in the Paris climate agreement.

I witnessed this close too, as Chair of Carbon Tracker at the time. In 2013, the Bank of England rejected the carbon bubble notion. By 2015, then Bank Governor Mark Carney was an evangelist for it, setting up the Task Force on Climate Related Financial Disclosure, and inviting Carbon Tracker to present to the Financial Stability Board.[6]

Carney explained the wider context of his advocacy of the carbon-bubble thesis in 2021, addressing the World Economic Forum: "Climate change is an existential risk ….if you're solving an existential risk, if you're part of the solution not part of the problem, it is a tremendous opportunity…." [7]

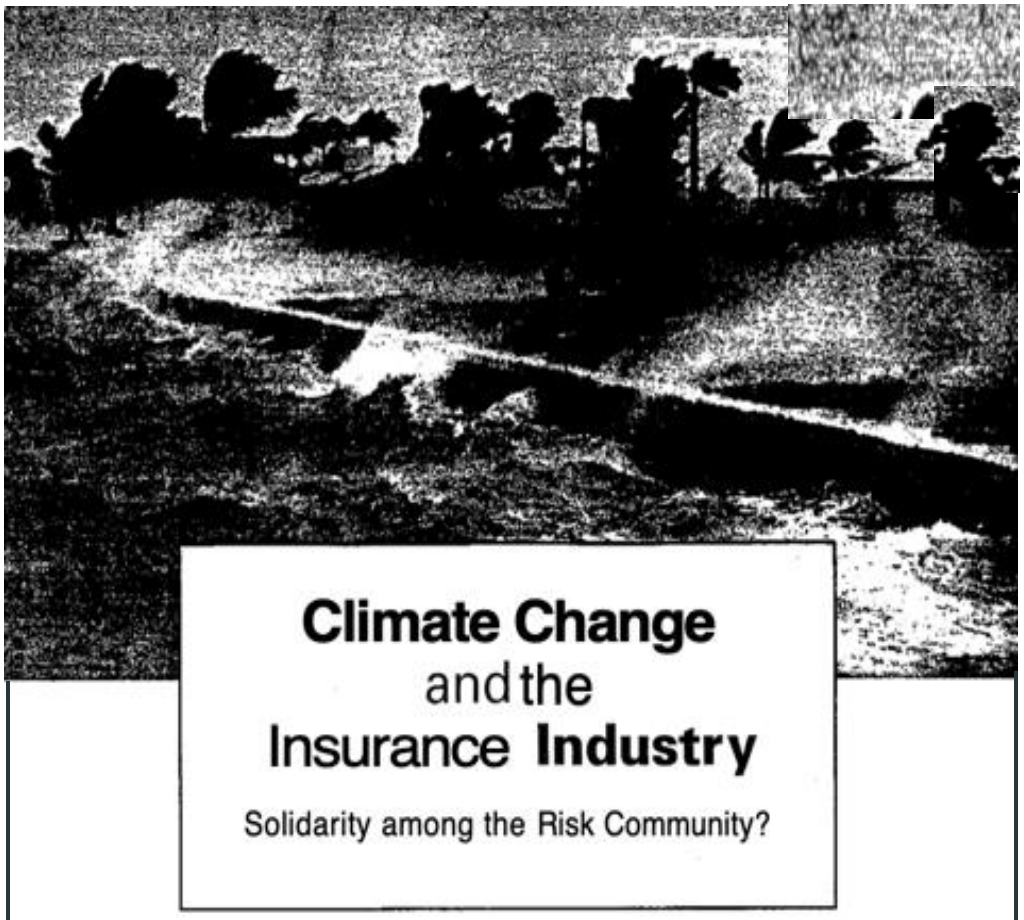
That should be an observation particularly relevant to the insurance industry.

Mark Carney and Michael Bloomberg launching the Taskforce on Climate Related Financial Disclosure.

10. The insurance industry is particularly threatened, but it has failed to take opportunities to address climate risk at source for decades.

Insurance-industry experts have long professed that their sector faces a growing existential threat from expanding inability to insure against increasingly numerous and/or intense climate-related disasters, should climate risk not be abated globally. Yet the industry as a whole has done little to address the risk at source. In particular, investment divisions in many companies still invest in fossil fuel companies as though climate risk does not exist.

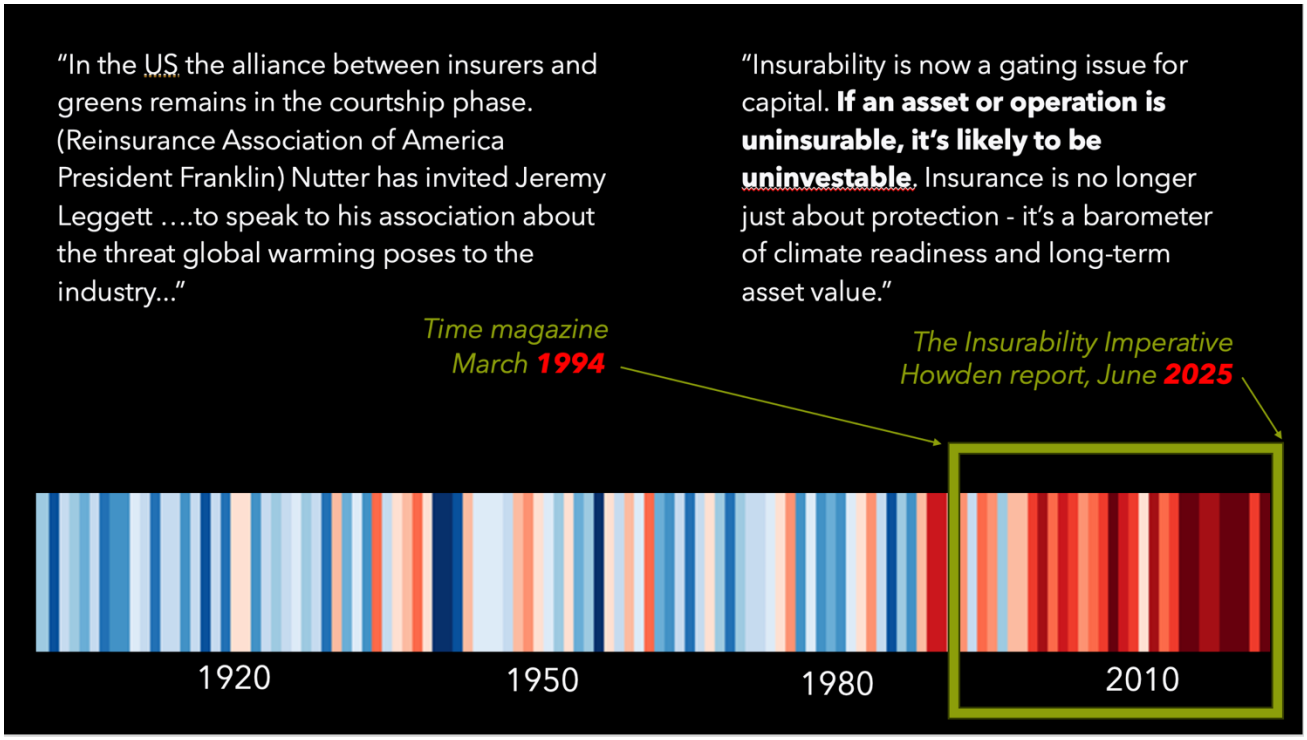
In the early and mid 1990s I ran a campaign to help convey these risks to insurers, and persuade them to act accordingly. In 1993 I presented a white paper to Lloyd's of London. In it I argued that "In high places in the industry, there are real fears for the very future of stable insurance markets should current climate models prove accurate, or even worse - underestimates". (And sadly it has). I concluded that the industry can and must look to active strategic protection of the market in which it operates.[8]



Some industry leaders were listening, and in 1994 the President of the Reinsurance Association of America invited me to present the case to the CEOs and Chairs of most of America's reinsurance companies at their annual gathering. In the subsequent 30 years understanding of the stakes has grown. For example, the international broker Howden now professes that "If an asset or operation is uninsurable, it's likely to be uninvestable. Insurance is no longer just about protection - it's a barometer of climate readiness and long-term asset value."[9]

But in those 30 years, with global average temperatures rising all the time as the chart shows, the industry's collective effort to protect its own interests has been dismal.

This is particularly disappointing given the profitable risk-abatement opportunities that have arisen along the way. My next learning is an example.



Relevant newspaper headlines on 29th October 2025

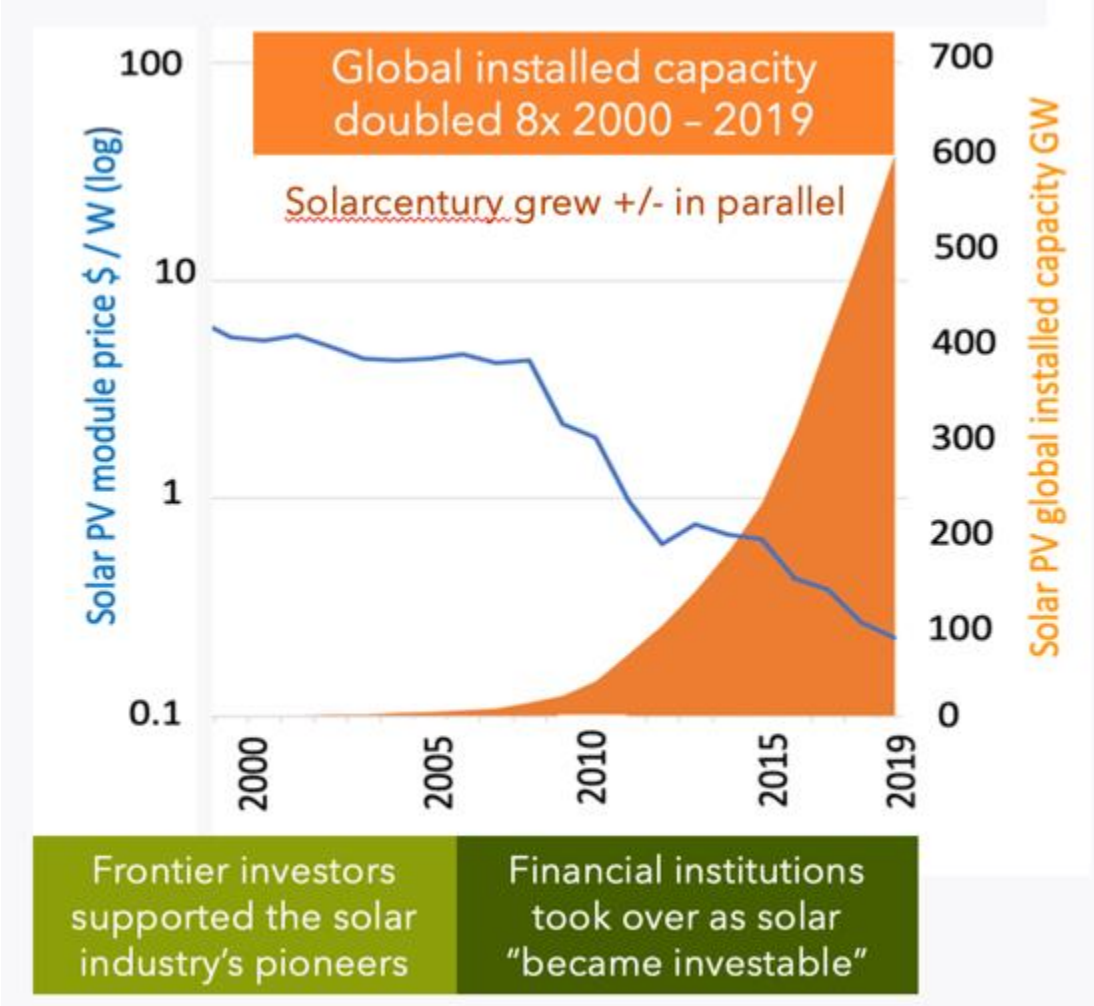
'Storm of the century': record-breaking Hurricane Melissa hits Jamaica

Rising heat kills one person a minute worldwide, major report reveals

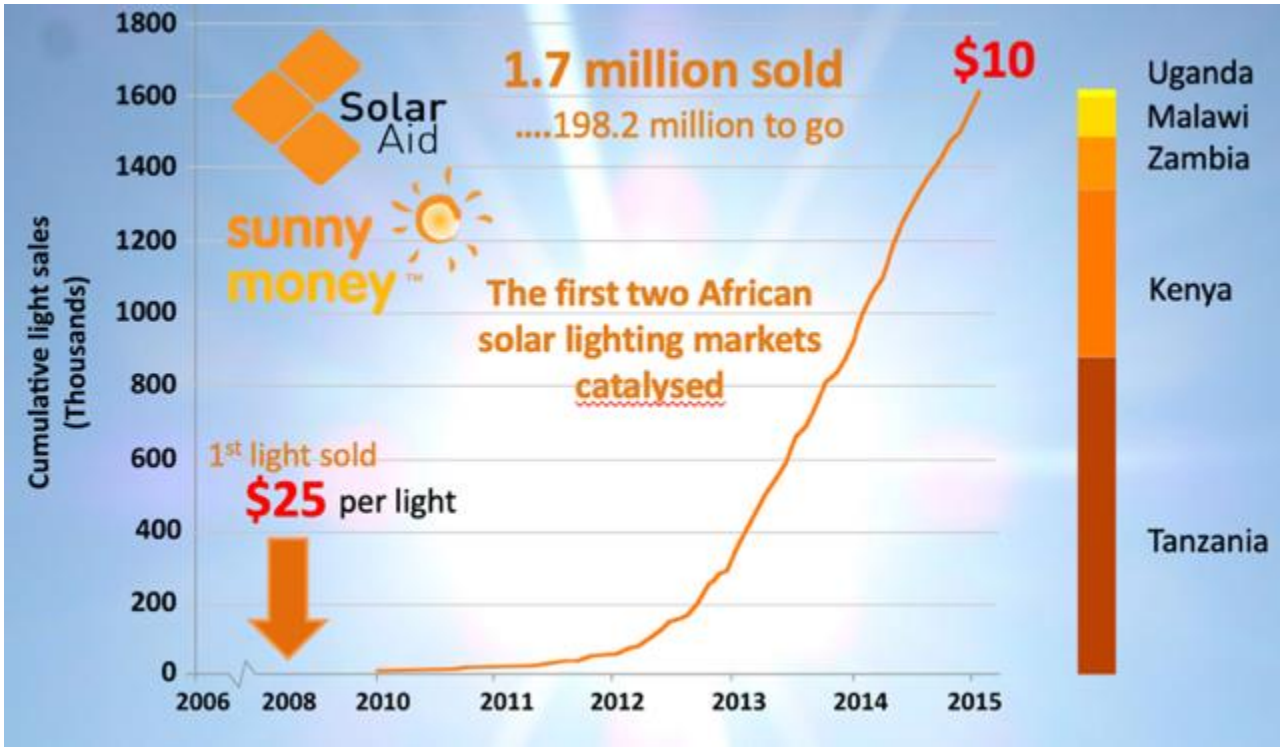
11. We know we are collectively capable of creating exponential markets vital to a liveable future, even if they displace fossil fuels.

The growth of the solar photovoltaic (PV) market since around 2006 is perhaps the most striking example of this. As solar manufacturing costs fell (the blue line in the chart), volume of sales rose sharply and capital from financial institutions increasingly fed the growth. The solar company I founded in 2000, Solarcentury, helped create this takeoff and also rode the exponential wave.

Before the tipping point, frontier investors did the capitalisation. Financial institutions took over only once it became bindingly obvious that solar was heading for takeoff.



Solarcentury roofs: combined heat and power for a housing association, solar electric for a superstore.



Another exponential solar market: solar lights in Africa. Solarcentury donated 5% of net profits to kick start African solar lighting markets ….and catalysed the first two fast-growth markets, in Kenya and Tanazania.

A brilliant, clean, affordable light from a SolarAid light compared to a dim, dirty, unaffordable kerosene lantern. So why are the latter even sold in Africa any more?

Another learning: a company giving away 5% of its profits to fight inequality (grants to help African solar entrepreneurs get started) can build an internal culture of high intangible value.

12. The tipping point created by investors in solar two decades ago now needs to be replicated by investors in nature, and fast.

The fast-growing global solar market is a key tool in the transition away from fossil fuels. But solving climate change alone is not enough for a liveable future. The inter-related risks of climate meltdown and biodiversity collapse require rapidly growing markets in both energy-transition technologies like solar, and nature recovery. The financial sector now has disclosure taskforces for both climate and nature, trying to direct investment into each of these two vital markets.

Potential investees among nature-recovery developers, including my company Highlands Rewilding, are working hard to create the tipping point for the nature market. The picture below shows an example of how we are endeavouring to do this, expanding temperate rainforest in Scotland. This is the kind of project that financial institutions must be investing in, on a national scale, if governments are to have any chance of hitting the ambitious targets in the Kunming-Montreal treaty.

For this to happen it will be obvious that governments need to be bringing in policies consistent with their treaty pledges in Paris on Climate and Montreal on biodiversity. In that regard I now need to talk about the vital role of democracies.

The financial sector now has disclosure taskforces for both climate and nature, trying to direct investment into each of these two vital markets.

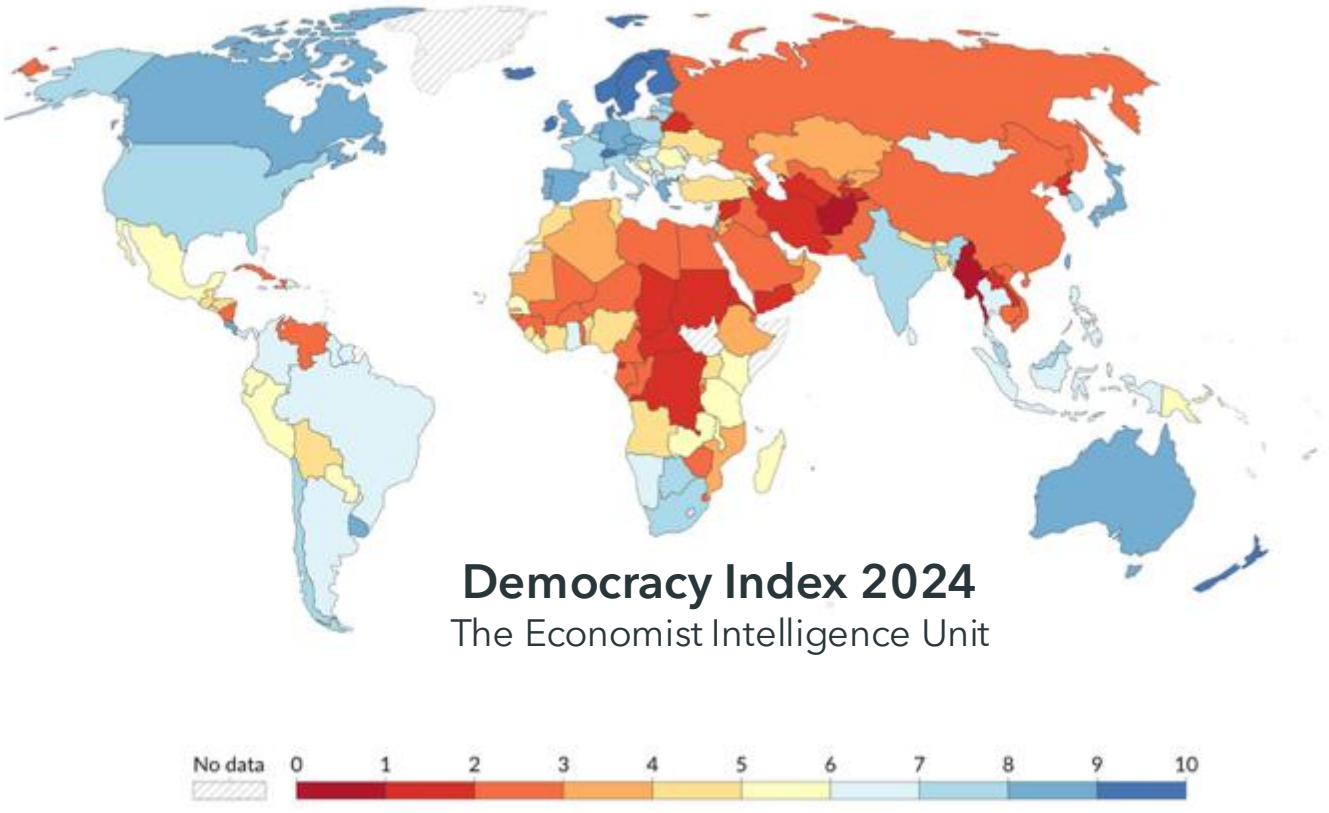
An example of where a nature-recovery market can grow: expansion of temperate rainforest on the west coast of Scotland.

13. Democracy is under growing threat - and a liveable planet will not be possible without healthy democracies.

My conclusion from 30 years of immersion in multilateral climate negotiations and national policymaking on the environment is that democratic nations generally lead wherever progress in made.

In 1941 there were only a dozen democracies; by 2000 only 8 states had never held a serious election. But then came the financial crisis. Democracy has regressed in multiple countries since 2007.[10]

Accordingly, failure to protect democracy increasingly means failure to protect the planet.



"Global freedom declined for the 19th consecutive year in 2024 ….It is in the vital interest of all those who believe in democracy to invest in democratic institutions at home."

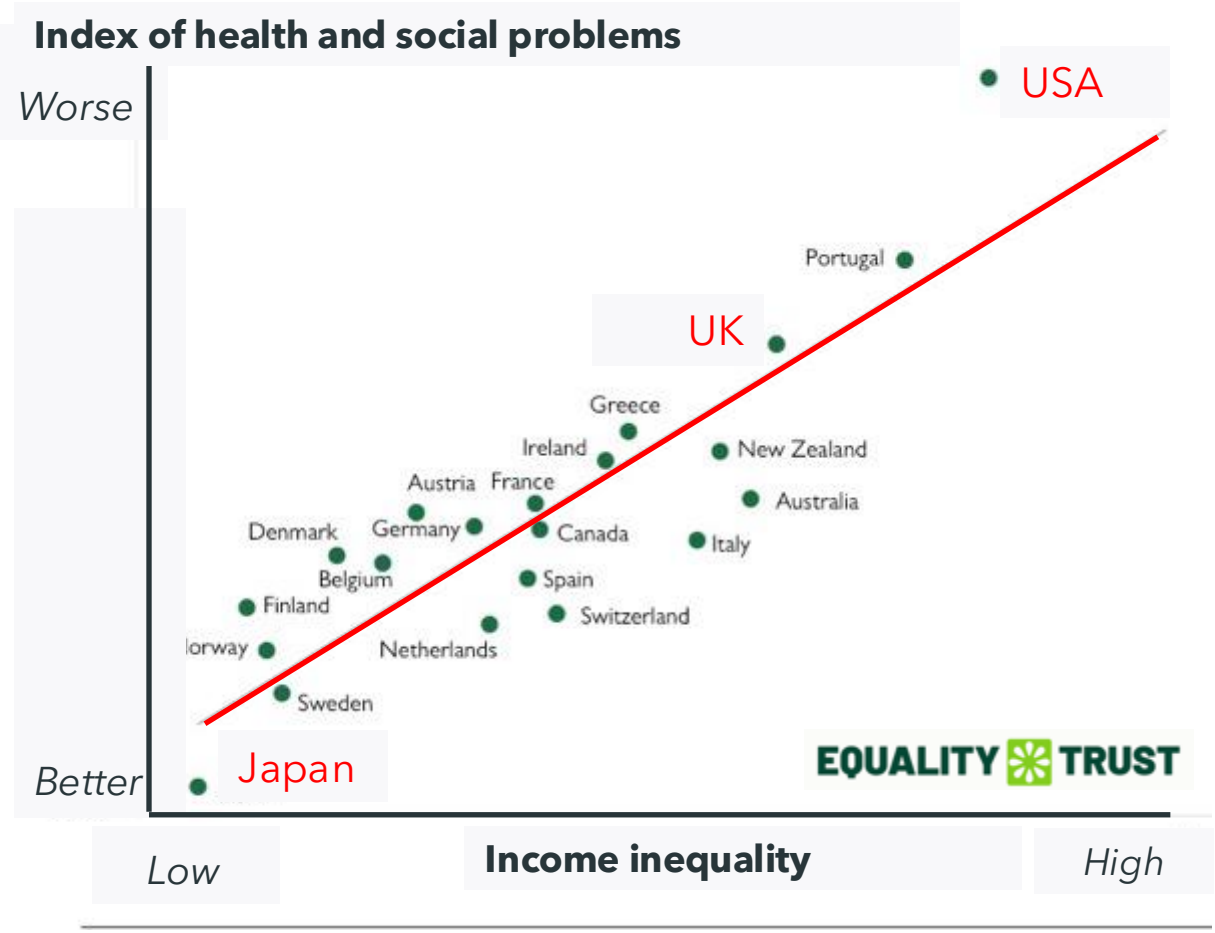
Freedom House[11]

14. Worsening inequality is a major factor in the growing threat to democracy - it has fed a rising anger in society.

The World Economic Forum's Strategic Intelligence report of June 2021 summarised the core problem as "Unchecked capitalism, dizzying technological change, grossly disproportionate executive pay, and intensive financial globalization. Mitigating this needs ….a broad shift to thinking about ways an economy can service human and planetary well-being - not just the well-being of markets."[12]

The Equality Trust publishes reams of data that make the problem clear. For example, they plot an index of health and social problems against income inequailty. In a group of 21 developed countries, Japan scores best, and the USA worst – by far. The UK sits between the two. [13]

The inequality problem has implications for communication, as my next learning explains.



15. New ways of communicating would now seem to be required if support for action on nature is to be built beyond the liberal elite.

In the post-truth world significant proportions of populations fail to recognise the existential threat that the crisis in nature poses. Worse, many view such denial as an essential element of a belief system that allows them to support rising authoritarian politics. Accordingly, there is a growing line of thought that we who seek action on the crisis in nature must change the way we communicate.

How to do this is the subject of a vital inquest recently published by Systemiq, the sustainability think tank. They suggest, in essence, that we cannot expect to communicate with people facing the cutting edge of inequality using the language of environmental disaster, because they have other concerns. The Systemiq team sees "a need for a major reset of our narrative, strategy and stakeholder capital building," including "a new frame for the sustainability agenda, based on the promise of a better life, and an abundant, thriving and safe home for all." [14]

This need not be too difficult, they argue. For example, we have to argue for lower energy bills, not fossil-fuel phase outs. We need to advocate breathable air, not greenhouse-gas emissions reductions. That way we have a chance of bringing those in denial of the crisis in nature along with us in achieving the outcomes we seek.

Years of "rational" but often ineffective communication?

16. Building belief that the crisis in nature can be reversed or seriously abated will require holistic solution exemplars at scale.

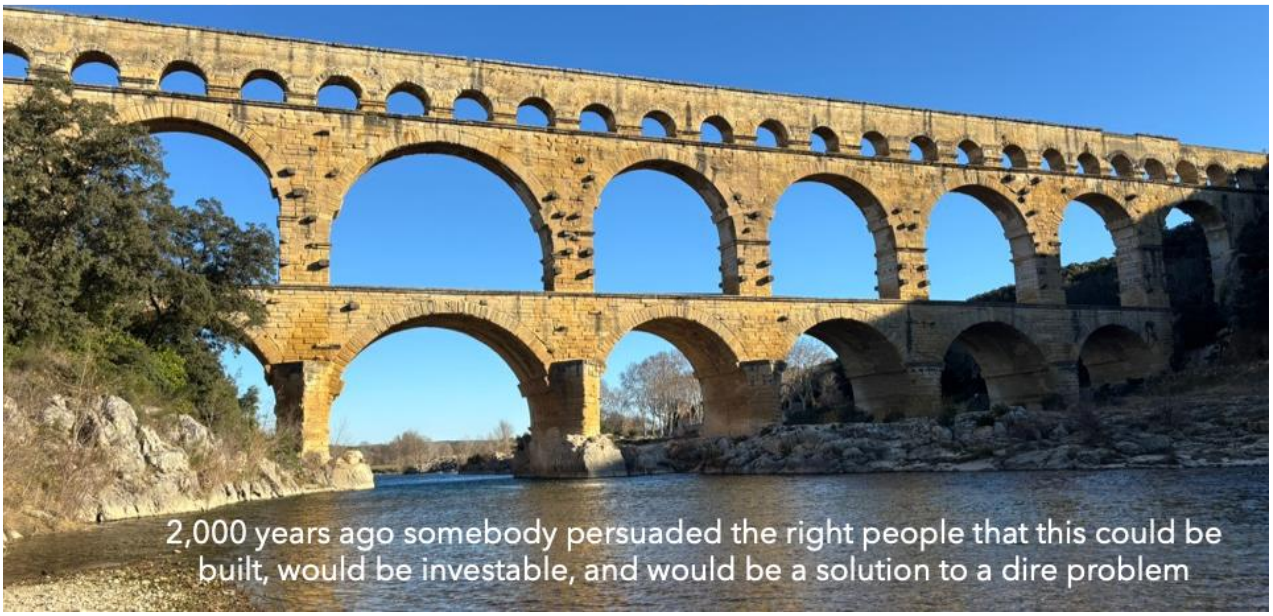
In my career I have often witnessed how well exemplars work in laying bare common myths about the supposed unworkability of alternative futures. In the energy field I am thinking of residential developments with 100% of electricity and heating coming from renewable micropower, charging electric vehicles and pointing the way to a future powered by what is increasingly being called electrotech.

But these are microcosms, and the crisis in nature needs landscape- and national-scale exemplars of what a liveable world would look and feel like. And they will need to be communicated in ways able to reach and persuade angry and disenfranchised people in denial.

17. History gives us licences to dream big - and the present gives us imperatives to dream even bigger.

2,000 years ago somebody persuaded the right people that the aqueduct in the picture could be built, would be investable, and would be a solution to a dire problem. They sold an unlikely but essential dream, and they went on to deliver it. This aqueduct and many others like it gave an entire empire access to drinkable water. (The water theme is appropriate, because water crises today will become routine unless global overheating is stopped).

In terms of imperatives to dream big today, I put two top of my list. There is a danger of appearing naively idealistic here, but these two cannot be ignored.



Imperative 1: Solution exemplars must hold the potential to reach a scale that can create space for large-scale nuclear disarmament. This is because the danger of accidental use of nuclear weapons is too great to wish away.

A Royal Institution for International Affairs report entitled "Too close for comfort" lists 13 instances since 1962 when nuclear weapons were nearly launched. The report concludes that "…Individual decision-making, often in disobedience of protocol and political guidance, has on several occasions saved the day….." [15]

For example, disobedience by Lieutenant-Colonel Stanislav Petrov saved the world on 26 September 1983. He ignored standing orders from the Kremlin in not firing Soviet missiles when sensors showed incoming US missiles. The sensors were flawed, but he didn't know that.

Imperative 2: The scale of the potential peace dividend.

Imagine what could be achieved with just a fraction of global arms expenditure. In 2024, global military expenditure reached $2,718 billion. That is $331 for every man, woman and child on the planet.[16]

Imagine if just 10% of that were to be allocated to solution exemplars. We would have more than a quarter of a trillion dollars to invest in a liveable future. Not donate. Invest. Those investments would surely generate a dollar or two for pension funds.

In which vein I turn, in my final three learnings, to solution exemplars. There are so many to choose from in the modern world. I will restrict myself to one, my personal favourite.

Lieutenant-Colonel Stanislav Petrov, the man who saved the world: on 26 September 1983, by not firing Soviet missiles when sensors falsely showed incoming US missiles

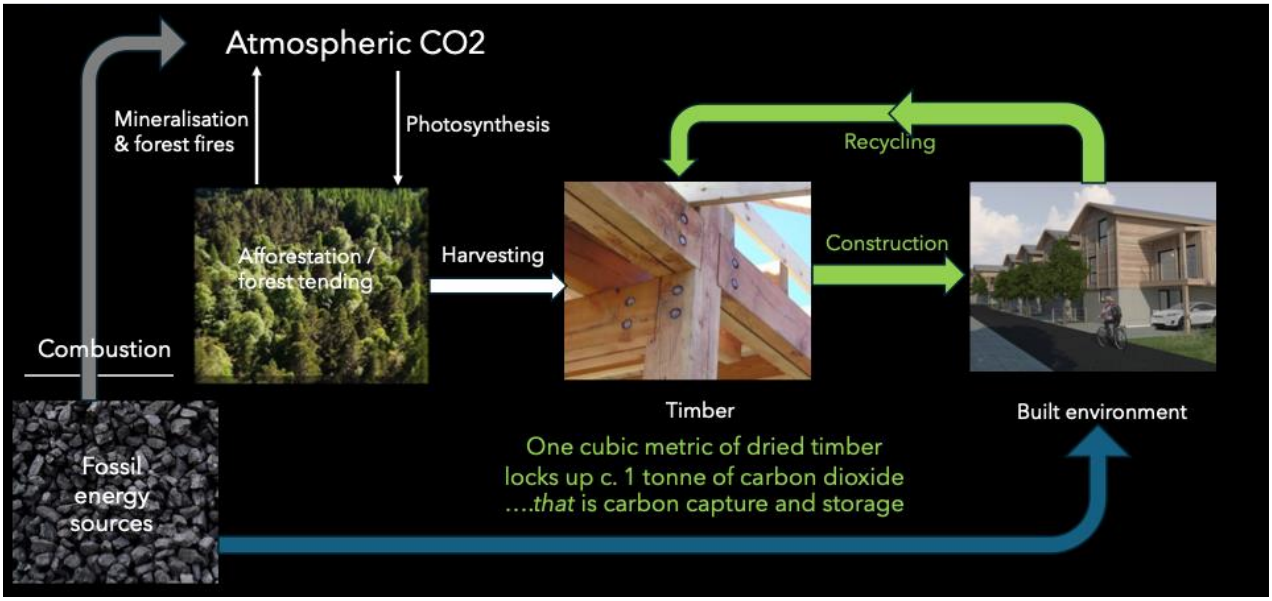
In 1989, how many pundits predicted the fall of the Berlin Wall?

18. The best solutions exemplar at systems-change scale that I have encountered in 40 years is the notion of the forestry construction pump.

This one is not difficult to imagine. Massive forests are planted and/or regenerated. They are capable of sucking far more carbon down from the atmosphere than current forests do. They are harvested when mature, with two vital provisos. First that more new planting and regeneration takes place than felling. Second that most of the harvested timber is used in constructing buildings, displacing the concrete, steel and bricks routinely used by the construction industry: the single biggest source of greenhouse gas on the planet. The resulting timber buildings become an enormous sink for carbon.

A previous winner of the Blue Planet Prize, John Schellnhuber, calls this solutions exemplar the forestry construction pump. He has thought through the scale of it. He concludes that "by planting and maintaining 500 billion trees and constructing 2 billion timber buildings over a couple of centuries, the atmosphere could be returned to a state not seen since the Industrial Revolution." He knows there is much complex detail that would need to be thought through in making that happen. But the big picture remains clear. "Of course, it will not happen this way", he says, "but if only half of that is achieved we can still save the world."[17] I agree.

Combining forestry, construction, and biodiversity stewardship in strategy is an area where Japan leads most other nations. The Satoyama landscape tradition combines human settlements with adjacent forests, fields, and waters in a high-biodiversity, socio-ecological system. It very much helps to show the way.



There are other reasons why this makes sense. **Many nations have housing crises ….and traditional construction cannot be the answer, given that c. 40% of all global emissions derive from that.**

In Scotland, for example, the government speaks of a national housing emergency …and will not meet its ambitious targets to reverse biodiversity collapse unless it can house a rural workforce affordably.

Off-site manufactured timber panels can be flat-packed and assembled into affordable homes, built to Passivhaus standard or close to it, in just days. As many timber buildings as possible should reach this standard because of the benefits they bring for prosperity.[18]

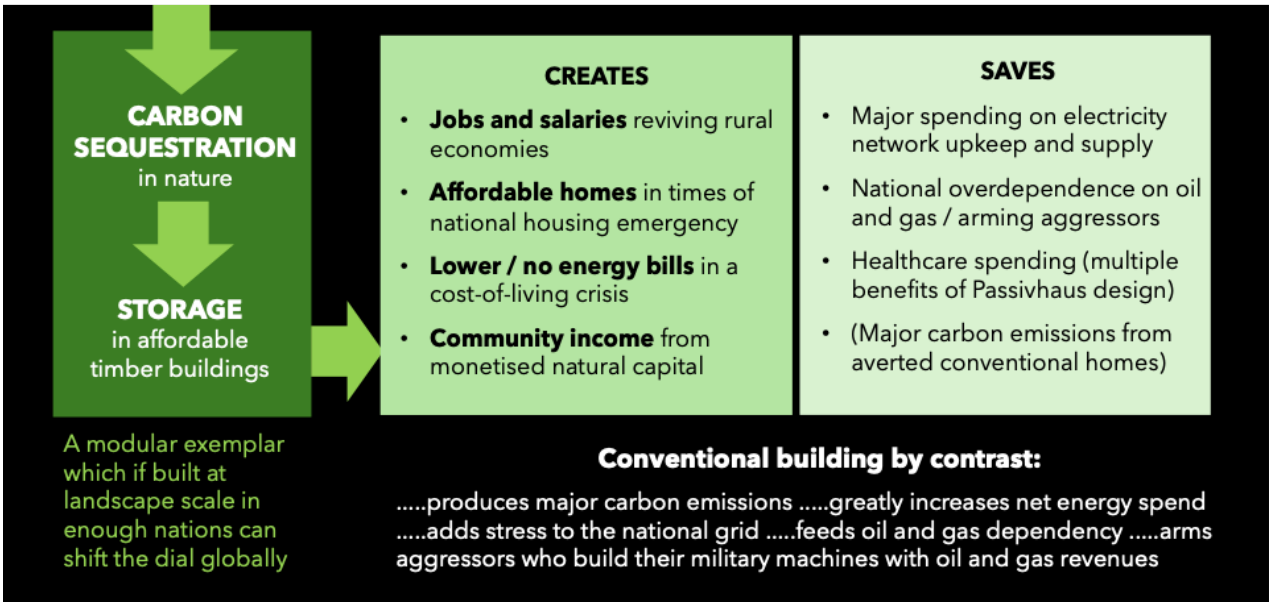
Again, Japan helps show the way here with its existing timber policy tools, including public acceptance of wood mid-rise building and municipal Passivhaus pilots.

19. An Idea for our times: The forestry-construction pump communicated not as a carbon pump but as a prosperity pump: the Nature Prosperity Pump.

Let us combine John Schellnhuber's idea of a forestry carbon pump with the Systemiq team's conclusion that we have to communicate in new ways in the post-truth world. I think this is quite feasible, in the context of this solutions exemplar. Among other things, the solution creates jobs and salaries reviving rural economies, affordable homes in times of national housing emergency, lower / no energy bills in a cost-of-living crisis and community income from monetised natural capital. It also saves spending on electricity network upkeep and supply, national overdependence on oil and gas / arming aggressors, healthcare spending (because of the multiple benefits of timber Passivhaus design). All this boosts prosperity significantly.

So let us call it a Nature Prosperity Pump.

And, if we are talking to an audience that does not want to be lectured about climate meltdown, we do not even have to add that it would achieve major carbon emissions from averting the construction of conventional homes with carbon-intensive materials.



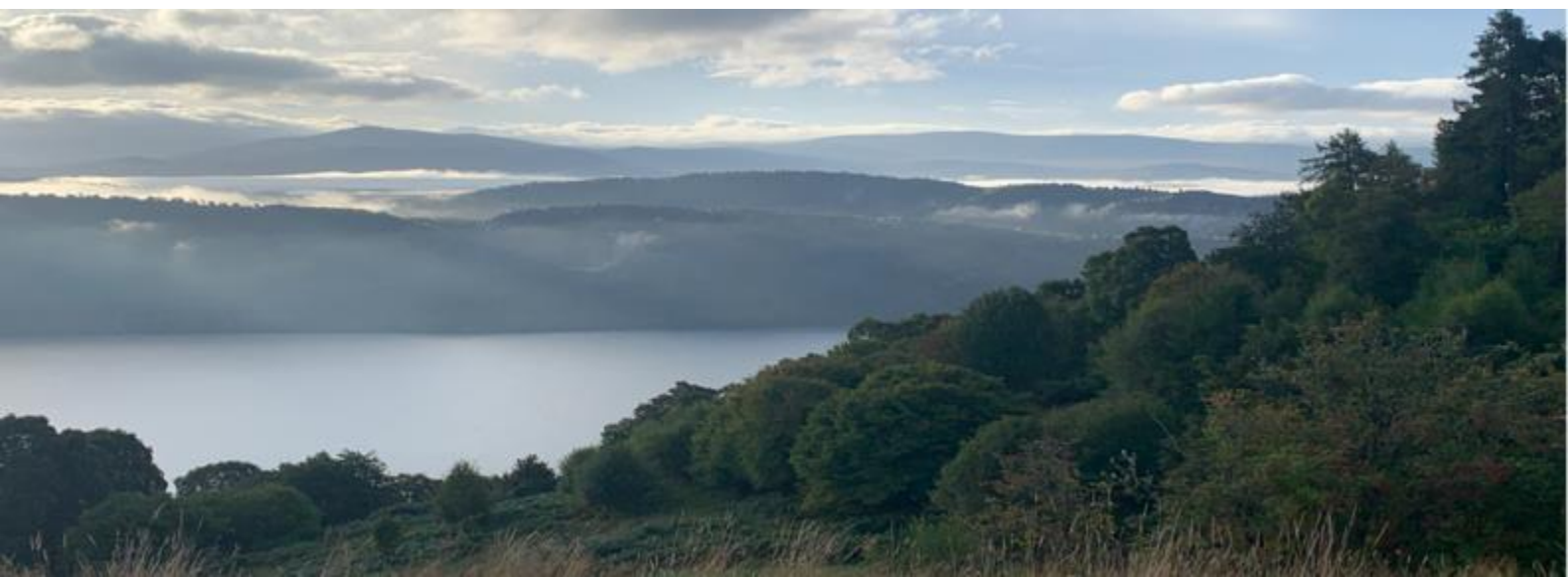
20. How best to bring a Nature Prosperity Pump exemplar about? One idea is that a consortium of players most threatened by the crisis in nature lead by example.

In this idea, a front runner or runners would create a fund big enough to kick start a nature-recovery market integrating timber construction, triggering wider investment and exponential growth. $1 billion might be enough to do this, in my view.

One possible combination might involve four parties, investing c. $250 million each. There are many other routes available. But this one would do the job particularly well, I think.

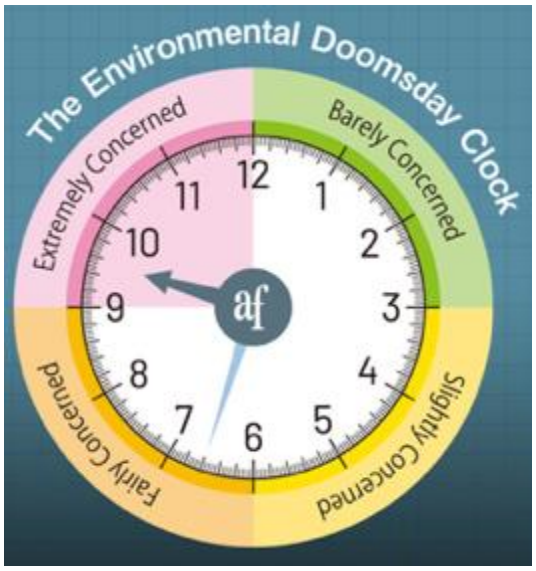
- **An insurer or reinsurer** knowing they face potentially being unable to operate in an uninsurable world if nothing is done.
- **A major retailer reliant on timber** with global interests in both forestland creation and innovative timber products for homes.
- **A multinational conglomerate** with multiple supply chains, including in food production, all at risk.
- **A state pension fund** with obvious interests in building a profitable market vital for a liveable future to retire into.

With that vision of a collaborative strategy for survival in the business world, I come to my conclusion.



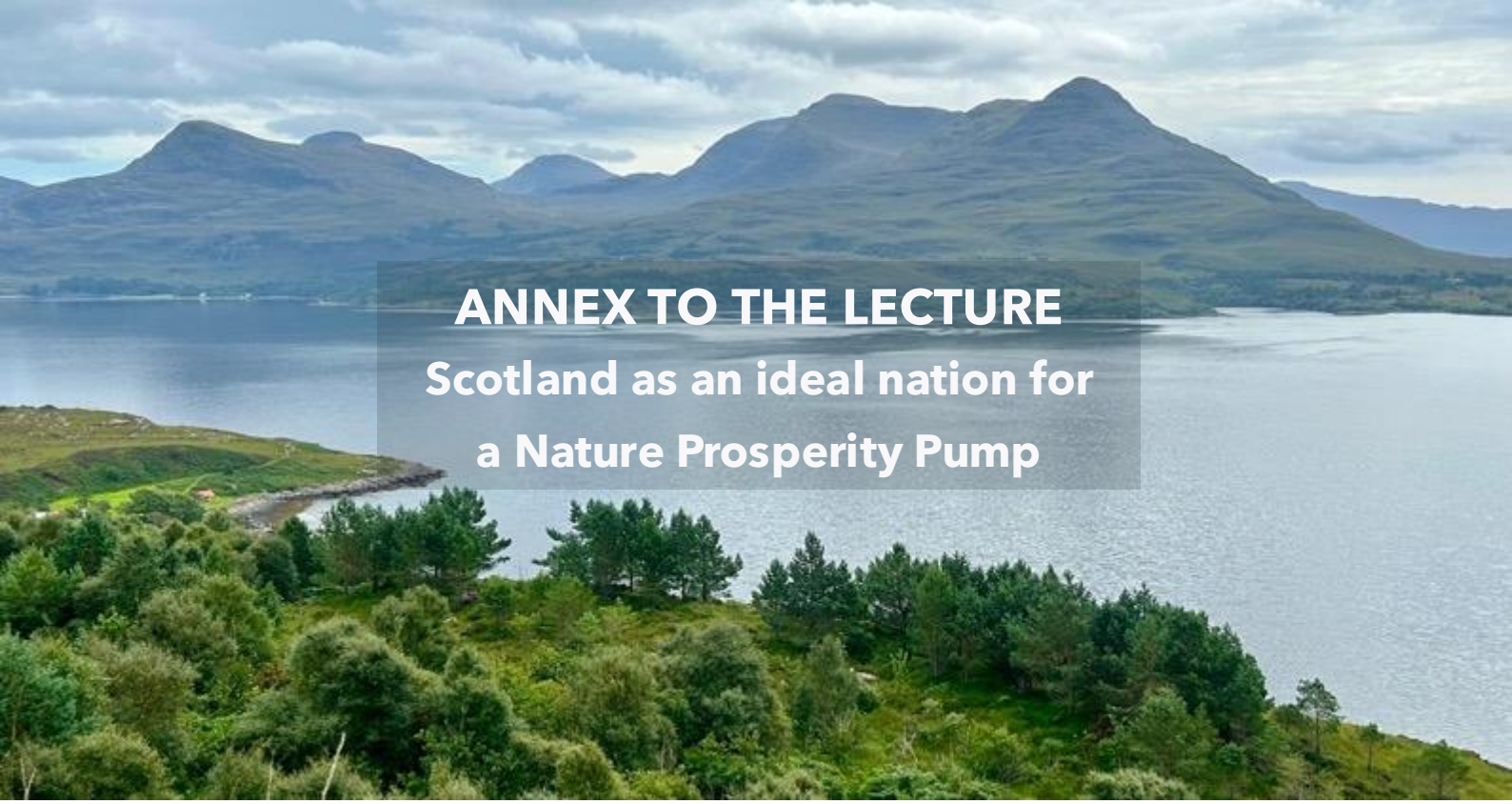
My conclusion

The Asahi Glass Foundation Environmental Doomsday Clock 2025 shows that the world is in the gravest of danger, and that experts know this only too well. But for me hope lives. It lies in solution exemplars like the ones I have encountered in my vocational life, and exemplars that I can realistically dream of based on those encounters, like the one I have described.



For those interested in further detail on practicalities, let me add some further thoughts: on how a Nature Prosperity Pump exemplar could be brought to life in one nation, of 5 million people, Scotland.

This section comes with a Declaration of Interest flag. I reference two Scottish companies in which I am both a director and a shareholder: Highlands Rewilding and Makar.



ANNEX TO THE LECTURE

Scotland as an ideal nation for a Nature Prosperity Pump

Scotland is an ideal nation for a Nature Prosperity Pump because six vital constituencies in this particular solutions exemplar are all in varying states of readiness, and have incentives to move fast. These are the government, the nature recovery industry, the forestry industry, the construction industry, local communities, and companies needing nature-recovery credits. Let me consider each in turn.

The government

There is seriousness of intent in the civil service, and among ministers, on the nature and the housing crises. Scottish Government reports on the "Nature Emergency in Scotland" [19] and the "Housing Emergency", [20] as they put it, tend to read as though they have been written by campaigning organisations.

In particular, the Scottish Biodiversity aims to reverse biodiversity collapse by restored and regenerated biodiversity across the nation's land, freshwater, and seas by 2045. The Scottish Government's Housing Emergency Action Plan is set to introduce a Scottish equivalent to the Passivhaus standard for all new-build housing. Scheduled to be published in early 2026, and to become mandatory from 31st March 2028.[21]

THE SCOTSMAN

Biodiversity crisis: Scotland can lead the world on rewilding and restoring nature to good health – Jeremy Leggett

Loss of animal and plant species is rife around the world, and Scotland is no exception.

Deputy First Minister in the Scottish Government, Kate Forbes MSP, on a 2 hour tour of Bunloit. A qualified accountant, Ms Forbes understood fully the potential for data-driven natural capital monetisation, and the potential for nature services as an export sector in the Scottish economy of the future.

The nature-recovery industry

The nature-recovery industry is embryonic, but ready to grow, with significant natural-capital data gathering and processing underway by several companies in multiple habitats across the nation.

For example, Minister for Biodiversity Lorna Slater described the second Natural Capital Report by Highlands Rewilding, published during biodiversity COP 15 in Montreal, December 2022, as follows: "….it demonstrates in detail the many benefits of rewilding to the environment and local communities. Restoring Scotland's natural environment at the pace and scale we need if we are to meet our climate and nature commitments requires significant investment across rural Scotland, and good, robust data like this is critical to justifying that investment and underpinning the continued growth in interest in this area."[22]

The forestry industry

The forestry industry by and large understands the need to change the way it has operated historically in order to help hit biodiversity targets. In practice this will entail a greater proportion of mixed-species closed canopy woodland, and managing existing forests better to support biodiversity. Examples are the creation and retention of habitats like deadwood, controlling invasive species, restoring vulnerable species populations, and integrating forestry practices with other land uses to support broader nature recovery.








Forest-to-bog operations, Bunloit

The construction industry

Scotland's construction sector uses a significant amount of timber in construction already, but there is scope for much more. In particular, off-site manufacturing using timber is small-scale at present, despite enormous potential to reduce cost and emissions reductions compared to conventional housebuilding.

There is plenty of potential in Scotland to expand local milling, local flat panel production, local building assembly, and recycling of timber as wooden buildings are replaced.

In a timber-based off-site construction system Natural Structural Insulated Panels (Nat-SIPs), are constructed using high-quality, natural, locally sourced materials. Building with these to Passivhaus standard means the house is warm in winter, cool in summer, has very low energy bills, very high air quality, and no dampness, leading to much better health.[23]

The Passivhaus Standard in the UK entails:

- accurate design modelling using the Passive Haus Planning Package
- very high levels of insulation
- extremely high-performance windows with insulated frames
- airtight building fabric
- 'thermal bridge free' construction
- a mechanical ventilation system with highly efficient heat recovery (MVHR).[24]

Operations at Makar, a leading Scottish timber housing manufacturer

Local communities

The Scottish Government's view is that nationwide nature recovery - as their climate and biodiversity targets require - cannot be achieved without full involvement and agency of local communities. Many stakeholders share this view.

Local communities on and around the landscapes of a Nature Prosperity Pump would need to be working side by side with specialist nature-recovery developers if this vision is to be realised. Land management of this kind cannot be undertaken from desks in far off cities, and in consequence many jobs will be created on the ground. This has already started. Growing numbers of local community members work for nature-recovery developer/s as ecologists, rangers, foresters, farmers and in other roles.

One of the two communities wherein Highlands Rewilding works points the way in terms of community engagement and agency. This is the Tayvallich community in Argyll and Bute. Highlands Rewilding and the Tayvallich Initiative negotiated a Memoradum of Understanding in 2023 that is the basis for company and community partnership. It has 24 action items, which have been progressed in the interim to mutual satisfaction.

Highlands Rewilding, a leading Scottish nature-recovery company, at work in the local communities where it operates. Top to bottom: planning and presenting science-led land management, a yurt used by the Highland Mindfulness Group, fruit production in a food forest.

Companies needing nature-recovery credits

As things stand, the Scottish Government intends to operate a voluntary national market in nature recovery. This differs from England, where the Environment Act of 2021 created a compliance market. The Scottish Government intends to use a version of the English Biodiversity Net Gain (BNG) metric as a proxy. This requires infrastructure builders to replace biodiversity they harm in their developments and add a good deal more besides. The Scottish Government would hold the power to make the voluntary market voluntary in name only by using the planning system to make it clear to infrastructure developers that planning would not be forthcoming unless they use their intended sites to participate meaningfully - and verifiably - in the reversal of biodiversity collapse.

Tayvallich village and some nearby temperate rainforest remnants

Conclusion

A national Nature Prosperity Pump project in Scotland would meet the needs of many stakeholders in a nexus of mutually-reinforcing common interests. The Government needs to hit its nature-recovery targets whilst building a healthy rural economy, fixing the national housing emergency, and moving forward its agenda to redress inequalities in land ownership. The nascent nature-recovery industry needs to grow, and to be sufficiently profitable to attract capital from pension funds and other financial institutions in order to capitalise growth. It also desperately needs the national housing emergency fixed, or else the large rural workforce it requires will not materialise. The forestry industry cannot be happy with either its record on hitting targets for timber production (the UK is second only to China in timber imports) or its past record on biodiversity. It knows it has to lift its game on both. The traditional construction industry is dragging its feet in sticking to carbon-intensive methods of construction, but new players intent on full use of timber – ideally local - are waiting in the wings for the slightest encouragement, such as a Passivhaus standard. Local communities are full of people aghast at the unavailability of housing and jobs, and many would surely welcome serious efforts to address the national housing emergency with locally sourced timber, plus the jobs and general prosperity that would entail. Finally, companies needing nature-recovery credits are beginning to see the writing on the wall. Their social licence to operate will very likely to be at risk if they do not join in seriously with efforts to hit nature-recovery targets. Neither will they have a viable business world in which to operate if nature-recovery targets are not hit.

All that is needed for this explosion of common interest to happen is a means to ignite the fuse.

A small woodland-creation project involving gorse replacement on Bunloit

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About the author

Jeremy Leggett is a social entrepreneur and writer. He founded Solarcentury (1998-2020), a solar developer that helped lead the solar industry to exponential growth. He was CEO through to breakeven, then Chair, then a Board Director through to acquisition by Statkraft. Solarcentury's awards include a Queen's Award for Enterprise in Innovation and a Best Company to Work For Award.

He also founded and chaired SolarAid (2006-2020), an international charity set up with a 5% levy on annual Solarcentury net profits. SolarAid's awards include a Google Global Impact Award and a BITC Unilever Global Development Award.

Jeremy's latest project is Highlands Rewilding, a developer on the frontier of the embryonic nature-recovery market. In June 2025 he won a Blue Planet Prize and invested the entire $500,000 prize fund in Highlands Rewilding.

An Entrepreneur of the Year at the New Energy Awards, Jeremy was the first Hillary Laureate for International Leadership in Climate Change, has won a Gothenburg Prize, was the first non-Dutch winner of a Royal Dutch Honorary Sustainability Award and has won a US Climate Institute Award for Advancing Understanding.

After taking a D.Phil in Earth Science at the University of Oxford (1975-78), he began his career teaching and researching earth history at the Royal School of Mines in the Imperial College of Science and Technology (1978-1989). He was founder and first CEO of the Verification Technology Information Centre (VERTIC), an arms-control think-tank aiming to contest the common Cold War view that arms-control treaties could never be verified (1985-1989). He served as founding Chairman of the Carbon Tracker Initiative, a think-tank of financial and policy analysts aiming to align the capital markets with international climate policy targets (2010 -2018). His books include The Carbon War (2000), The Energy of Nations (2013), and The Winning of The Carbon War (2016).