

Why we are where we are

May 2022- by David Newman FCIWMⁱ

Over the last weeks I have been reading some of the huge numbers of recent reports explaining the ecological situation in which we now find ourselves. The IPCC sixth assessment report on climate changeⁱⁱ; the UN report on biodiversity loss published last Octoberⁱⁱⁱ; the FAO Global Assessment on soil pollution^{iv} also from 2021; the Systemiq Reshaping Plastic research this year^v; and reports from many sources including the EMF reports on the food systems and the Plastic Treaty^{vi}. Policy statements from various Governments and the European Commission don't make light reading but they give you a sense of where we are and where Governments^{vii} think we all need to go to restore some equilibrium in our relations with the environment around us.^{viii} I won't list them all but they all underline the rapid breakdown of our ecological systems globally.

What are common themes in these policy statements and strategies? Almost without exception each of them proposes to move towards a circular economy and to consume less. In whichever economic sector we discuss, the EU target of reaching net zero emissions and other targets (biodiversity, soil health, water consumption etc) by 2050 involves

- 1) Reducing consumption or use of specific industries products (meat, flights, cement, clothes, packaging, plastics, energy etc). This is usually proposed by NGOs, not by the industry itself unsurprisingly.
- 2) Ensuring that what we do use is recovered, re-used and recycled. It has become a mantra. Everyone wants to re-use and recycle, refill and reduce. This is proposed by everyone.
- 3) Move towards renewable energy as a clean method of production. Especially the more carbon heavy industries, steel, cement, paper, plastics, look for the survival of their model in the post 2050 net zero world through substitution of fossil fuels with renewable energy.

There are other elements in common including substitution of material sources with more natural resources (eg for clothing) or the introduction of organic and regenerative farming for food, or the promise of new technologies to solve a specific issue (eg chemical recycling of plastic or carbon capture and storage). Naturally substitution only works in some sectors (not steel for example) and new technologies in others (eg with plastics). Renewable energy is transversal, it works for everyone, and everyone seems to like and invest in renewables, including the oil majors.

Within these three over-riding scenarios it is quite evident why we are ecologically on the fast track to destroying our global commons, and with that the areas on this planet that will support human and other life.

Let's take the first issue, consumption.

It is increasingly evident that we need to dramatically reduce the consumption of certain products and materials as a) they are running out and b) their use is contributing to global ecological impacts. Among the former are soil and freshwater, both critical elements for human survival. They are not "products" but resources which we use to create products, eg food. Soil resources are rapidly depleting, gradually becoming more polluted, and because of reduced precipitation in many regions, desertifying. We can see this in Asia and the Americas^{ix} especially but no region is immune, including the EU.

The global rise in meat production and consumption has a series of knock-on impacts that are highly negative, from deforestation to create pasture lands, to increased areas devoted to feedstock crops, water use, to the nutrient pollution entering soil and water systems, as well as methane emissions of course^x.

And finally, clothing. Fast fashion not only has impacts upstream in terms of material and energy consumption but also downstream in the failure of the industry to effectively recover, re-use or recycle its products once used. The impacts have become devastating^{xi} including the dumping of textile waste in developing countries or pristine environments like the Chilean Atacama desert.^{xii xiii}

There are many other industries I have not mentioned such as “plastics” or pulp and paper. The issues are so well known there is no need.

I really do despair for humanity and often am ashamed to be a human being. The reality is that mankind is collectively driving itself over the cliff and like the lemmings who jump to their deaths, is totally committed to leap.

In any case, this first proposal to solve our various crises is to reduce consumption; use less products, consume less to reduce the impact we have on the global commons. Well readers, the news is this is never going to happen.

Two main reasons. The first is simple to understand. 700 million people live in dire poverty living on less than \$1.90 a day^{xiv}. Any slight change to their circumstances can make the difference between life and death- a flood, a drought, loss of income, an illness, Covid which has pushed another 100 million people into poverty. So many people live a precarious existence that it is an ethical duty to raise them from poverty. This means, consumption- housing, clothing, food, energy, transport, communications, education, healthcare and everyday goods and services we, in the prosperous world, take for granted. Another 600 million people approximately live slightly less precarious existences but are, nevertheless close to or under income levels that the UN defines as “poor”^{xv}. It is quite some ask to believe that these millions will take a view that it is their duty to remain poor so we can all hit our net zero targets. Indeed, quite preposterous even to think it. That is 1.3 billion people we need to take out of poverty, 20% of the world’s population. They need to consume more, not less.

The second reason is our economic model. Whilst there are virtuous examples of businesses that have developed sharing/hire/repair models to reduce sales of new products, they are rare. And what’s more the scope for such business models is actually quite small. Difficult to think of a sharing model for shoes or shampoo or toothbrushes. Yes, there is a repair story to be told but even here, the soft shoes we buy now cannot be repaired, yet. So while sharing models for cars (Uber), kitchen goods like washing machines, or gardening / building tools have been developed, I sincerely do not believe these will make a big impact on overall consumption.

There is a third reason- entropy. Things wear out. They need to be replaced. We totally underestimate wear and tear, damage, breakages, the inability to re-use, recover or recycle many products.

Were you in business today selling say motorcars, airplanes, tools, cement, chemicals, plastic, aluminium cans, glass, paper, windows or floor tiles and I told you that for the public health you need to sell half as much by 2025, you would probably laugh or chase me out of the room. Yet this is effectively what we have to ask. And I cannot think of one politician who would have the courage to say “you all have to start now reducing your consumption, production, purchases by 5% a year until we meet net zero”. I cannot think of many people voting for this choice.

Imagine a Finance Minister telling Parliament that his/her target for 2030 is to reduce the economy of his/her nation by 25%? Imagine a Wall Street investor being told that the shares he/she holds will now devalue as the company has an ethically correct target to reduce sales on average 10% a year for five years? Fantasy. This is why we are producing more plastic every year. And despite the intentions of the Global Plastic Treaty, the producers will shape it so that they can continue to increase production. That is what businesses do, and they have no regard whatsoever for the consequences. Money talks, not ethics.

Unless we lock people down, as we did in the pandemic, and give them ration cards to control what they consume, we can forget a fall in consumption as an instrument to reducing our impact on the global commons in the richer world we inhabit. I don't believe we are ready to do this.

The next issue is the circular economy model: repair, refill, re-use, recycle, keeping products and materials in the economy.

Ever since the Michael Braungart Cradle to Cradle^{xvi} book was published in 2002 the intellectual environmentalists have been on a circular economy mission. If I had a dollar for every article, declaration, book, speech given on how the circular economy will save us, I would be a billionaire. CE is now part of government policy in many regions, including the whole EU^{xvii}. A recent critique of the theory and practice of CE was published by a group of European scholars.^{xviii} Take five minutes and read it. Essentially it argues that CE is a poorly conceived and defined fig leaf to contextualise and disguise the desire of major corporations to continue business as usual. And they are very successful. Moreover, the laws of thermodynamics are difficult to overcome and recycling, with its continuous losses and waste by-products, shows this.

The world is becoming less circular every day according to the Circularity Gap 2022^{xix} report. With few exceptions, there are hardly any examples of nations improving the linear take-make-throw model. If recycling is one measure of circularity, you just have to look at plastic recycling in the USA, which has now declined to a miserable 6%^{xx}.

But beyond recycling, CE is a theory of re-using, returning, refilling and repurposing materials and products instead of making them from new. And some circularity is happening. My dear friend Freek Van Eijks of the Holland Circular Hotspot^{xxi} travels the world telling us how it is done. The famous Dutch politician Ad Lansink who created the concept of the waste hierarchy, has written a very nice book on circular economy. I have a signed copy.^{xxii}

But the examples of circularity working actually hide the bigger picture of increased resource extraction and consumption, increased waste volumes to treat, increased energy needs to process both materials and waste. Moreover, the market bias in favour of virgin raw materials usually means that recycled materials are either more expensive, or unsuitable for the market in many applications. Market pull fails, as WEEE recycling shows.

Again, there is entropy. Things wear out. Many materials have finite recycling limits- paper, plastic, textiles- virgin inputs are required in any case. The recycling of materials also forces us to make new, virgin raw materials and in this sense only certain recycling streams have any real ecological benefit. Metals, glass and paper are among those, but when we think about plastic there is very little to be gained from all this effort into recycling. Indeed a recent study shows just how we concentrate the toxic content of plastic more and more each time we recycle the stuff^{xxiii} and produce loads of hazardous waste by-product.

So, while the theory is good, the practice so far has failed to deliver significant reductions in material consumption. We can hope this changes and work towards that, but clearly the change is far into the future. So far it has to be said, CE is a hoax, a mantra to hide behind and to throw out as a smoke screen, holding out hope for a future that never seems to arrive.

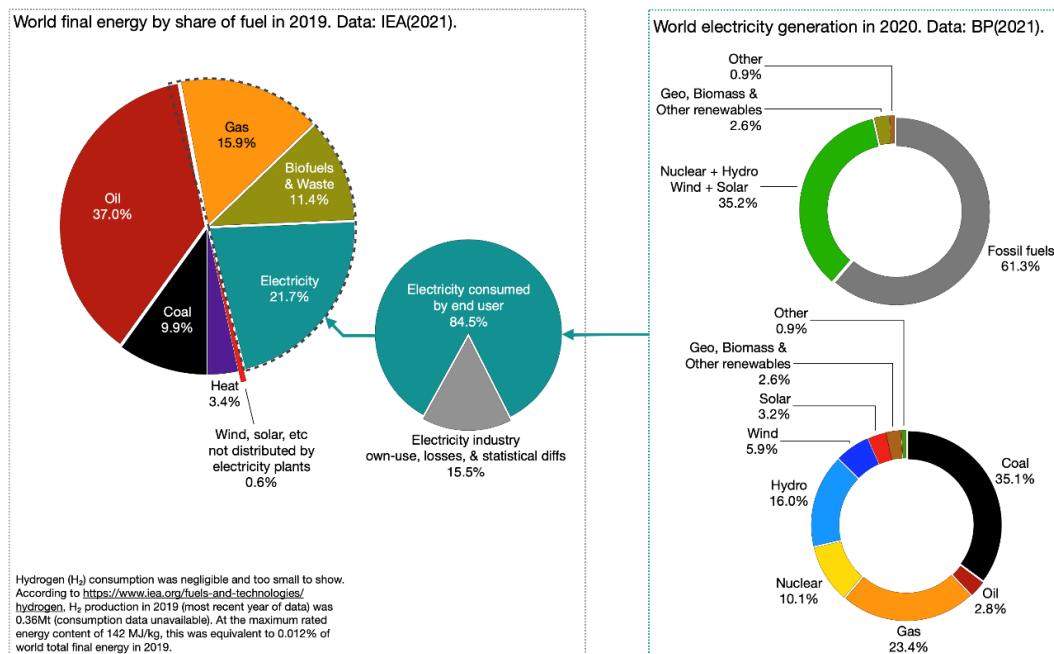
Finally, renewable energy will save us, won't it? Covering deserts in solar panels, coastal areas in wind turbines, converting our biowastes into biogas, using moving water to create hydro power, heat pumps, and why not, let's throw in the odd nuclear power station or two. All this is happening. We are seeing a huge surge in renewables everywhere and the great news is, at unit energy prices inferior to most fossil fuels. €5c/ kwh is now common.^{xxiv}

Did I hear you say Ukraine?

What has happened in recent months has demonstrated with a clarity that nothing has before: our total dependence on fossil fuels today. 84% of all the world's energy is still fossil based. What's more, even as renewables surge forward the overall rise in energy consumption means that globally, the percentage remains unchanged. The graph below gives you the idea^{xxv}.

Consumption of coal, oil and gas is rising not falling. Significant change is a long way away. Certainly anyone who imagines that we are going to change global energy consumption quickly enough to meet 2050 net zero is living in a dream world.

And forget nuclear power. To build a plant takes two decades assuming your nation has the financial capacity to finance it and to pay exorbitant energy prices for the next 50 years to maintain it.



Conclusion

Already the target of 1.5c global warming by 2100 has been proven to be a false hope. We will indeed reach that level of warming in the next 5 years^{xxvi} as I predicted long ago. All the official science has been so watered down that we have not been hearing the truth. The real data shows the situation clearly. We will hit, on current performance, plus 4c or even 5c by 2100. There is nothing we can do today to avoid this. Locked-in fossil fuel energy investments, population increases, the increase in

consumption especially in poorer nations, deforestation, make all this inevitable. The impacts of such global warming are catastrophic and this much we know for certain.

Will some miracle technology solve everything? Chemical recycling of plastics? Carbon capture of emissions? Don't believe it. So far the Jeremy Rifkins^{xxvii} are only right in theory and implementation of new economic and energy models is only marginal. Will the dematerialisation of consumption through new technologies like the Metaverse reduce resource use? I remain to be convinced although enormous investments are heading towards these technologies.

So do we give up?

Of course not. It is our duty towards ourselves as conscientious humans to leave the world in as good a condition as possible for our children and generations to come. We must fight every corner and apply every technology we have immediately to reducing our impacts on ecology.

Many people and groups are working hard to make these changes and we have the international fora to bring nations, companies and civil society together. We are talking and this is great news. There is more awareness now on ecological issues than when I ran Greenpeace in the 1990s.

One of the first steps we need to make is to shift public spending into activities that only have beneficial ecological outcomes. Money walks, the rest is talk. Renewable and not fossil energies; regenerative and not chemical based agriculture; public and not private transport (I want to take trains everywhere around Europe but they are so slow and expensive and often unreliable, we need to fix these things fast). Raise taxation on goods and carbon, reduce it on incomes. We must of course keep inventing, researching and applying new technologies- they will slow down the rate of ecological deterioration and that is good news. Most industries are working on those new solutions right now, we need that to be bigger and faster. But let us not be fooled by the magicians always inventing new products as if these are the solutions. We actually need less products; and this is why we are in a certain sense doomed. We are trained to invent, to create, to produce and to believe that technology will solve everything.

My take on the situation today is that we now have to get real and plan ahead. Politicians think in short cycles but this crisis requires a 30, 50 years vision. We have to move populations gradually away from coastal areas; occupy (I mean peacefully) the vast steppes of Asian Russia and farm them; and undertake all the measures we can to make life bearable in places where 50c daily temperatures will be normal.

Your best bet towards making the planet a better place is to be happy, enjoy being alive, celebrate being alive. Life is still wonderful and despite all the issues we face, we are living through the golden age of humanity. Be confident change can and will happen. Our job is to speed that up. I wish all clever people the very best of fortunes.

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ⁱⁱ <https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/>

ⁱⁱⁱ <https://www.un.org/press/en/2021/gaef3553.doc.htm>

^{iv} <https://www.fao.org/documents/card/en/c/cb4827en/>

^v <https://www.systemiq.earth/reshaping-plastics/>

^{vi} <https://ellenmacarthurfoundation.org/publications>

^{vii} <https://valtioneuvosto.fi/en/-/1410877/bioeconomy-strategy-2022-2035-sustainably-towards-higher-value-added>

^{viii} https://ec.europa.eu/environment/topics/waste-and-recycling_en

^{ix} <https://wad.jrc.ec.europa.eu/biologicalproduction>

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- ^x <https://www.landhealthinstitute.org/single-post/2020/07/27/environmental-effects-of-the-meat-industry>
- ^{xi} <https://www.bloomberg.com/graphics/2022-fashion-industry-environmental-impact/>
- ^{xii} <https://www.aljazeera.com/gallery/2021/11/8/chiles-desert-dumping-ground-for-fast-fashion-leftovers>
- ^{xiii} <https://www.thetimes.co.uk/article/fast-fashions-carbon-footprint-is-too-big-to-ignore-nbnmm0wz0>
- ^{xiv} <https://www.worldbank.org/en/topic/poverty/overview#1>
- ^{xv} <https://hdr.undp.org/en/2020-MPI>
- ^{xvi} <https://mcdonough.com/cradle-to-cradle/>
- ^{xvii} https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en
- ^{xviii} <https://onlinelibrary.wiley.com/doi/pdf/10.1111/jiec.13187>
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- ^{xxii} <https://www.challengingchanges.org/author/adlansink/>
- ^{xxiii} <https://ipen.org/news/plastic-recycling-schemes-generate-high-volumes-hazardous-waste>
- ^{xxiv} <https://www.cleanenergywire.org/news/german-solar-tender-oversubscribed-despite-increased-volume>
- ^{xxv} <https://www.worldenergydata.org/world-final-energy/>
- ^{xxvi} <https://www.reuters.com/business/environment/world-could-see-15c-warming-next-five-years-wmo-reports-2022-05-09/>
- ^{xxvii} <https://centerforneweconomics.org/people/jeremy-rifkin/>