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A Modest Suggestion for the World's Climate Strikers

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By [Paul Arbair](#), originally published by [Paul Arbair blog](#)

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Dear climate strikers of the world, your grievances are absolutely founded and your protests absolutely legitimate. Yet they are unlikely to bring you what you hope for. Here's a suggestion for a possibly more effective climate action, which you may wish to consider.

Young people across the Western world are taking to the streets to voice their concerns and anger about climate change.

They're damn right.

The world's youth are inheriting the climate and environmental mess that their parents have made, and their protest is entirely legitimate. 31 years after the creation of the Intergovernmental Panel on Climate Change (IPCC), 27 years after the signature of the United Nations Framework Convention on Climate Change (UNFCCC), and despite a flurry of highly mediatised international summits, governments across the world have yet to properly address the climate crisis – or even, in fact, to really acknowledge and understand its extent and its meaning. Global emissions of carbon dioxide have increased by over 65% in the last three decades, [reaching an all-time high in 2018](#), and the [concentration of CO2 and other greenhouse gases in the Earth's atmosphere keeps rising relentlessly](#). As a result, [global warming is accelerating](#), and the runaway climate disruption is having increasingly dramatic consequences around the globe.

Every passing day, the risk is growing of reaching a tipping point in the destabilisation of Earth's climate system. Every passing day, the planet is becoming a more dangerous and inhospitable place for future generations. Every passing day, it is becoming more obvious that [the world is losing the war against climate change](#) – or, in fact, that it is not even really fighting it. Every passing day, it is also becoming clearer and clearer that climate change is only one aspect of an [ongoing, multifaceted and accelerating destruction of planetary support systems](#) by homo sapiens. Every passing day, [the window of opportunity for changing course is becoming narrower and narrower](#).

The world's young people will inevitably suffer the consequences of this unfolding tragedy, and it is their rightful right to hold adults accountable for their actions – and, most of all, for their inactions. It is even their most pressing duty.

However, because there is always a “however”, it is not quite clear what the young protesters can really expect or hope to obtain with their “climate strikes”. Presumably, their goal is to constrain governments to “take action” – radical action, that is – to fight climate change. Presumably, for most of them this means mandating by law a very rapid fossil fuel phase out and transition to renewable energy sources – meaning solar and wind power.

They're likely to be disappointed: no such legally binding mandate is going to be adopted and enforced. Not in the short term, and not in the long term. And this is not only because of the entrenched power and influence of fossil fuel industries, or of the cowardice, incompetence and moral corruption of policy makers. These are of course part of the problem, yet they are not the main reasons why the transition to "clean energy" is being held back.

Transition, what transition?

In fact, the deployment of solar and wind energy has already been benefiting from generous subsidies and favourable policy incentives in many Western countries for a couple of decades, as well as from a general cultural shift towards sustainability concerns. Yet [the speed of global renewable energy adoption remains dramatically insufficient to reach the climate targets set in the Paris Agreement](#) signed in 2015, and [global investments in solar and wind energy have been stagnating in recent years](#) instead of rising as would be needed. Even if the installed renewable power generation capacity is now growing rapidly thanks to falling production costs (of solar cells and panels mostly), [solar and wind still account for a quasi-negligible share of final energy consumption at global level](#). Reviled fossil fuels, on the other hand, continue to account for around 80% of the world's energy use, a share that has barely changed in the last four decades. In other words, 80% of the physical "work" performed using all types of devices and machines across the world – and there is more and more of it – involves and actually requires burning fossil fuels.

The modern world was built on fossil energy, and it fundamentally continues to run on fossil energy. The deployment of solar and wind energy itself runs on fossil energy, not only because the manufacturing, installation and maintenance of solar panels and wind turbines requires using significant amounts of fossil fuels at various stages of their value chains, but because it relies on the perpetuation of the economic, social, political and civilizational "system" and "infrastructure" that fossil fuels built. And so far they only play a marginal role in the perpetuation of that system and infrastructure. In other words, and despite ever-louder claims to the contrary, the much-vaunted "transition" to clean energy sources is not *really* happening.

Of course, there is no shortage of eminent – and eminently respectable – people claiming that a [transition to 100% renewable energy](#) is technically feasible, that it may be completed rapidly and at a (relatively) low cost, or even that it might unlock a myriad of new growth opportunities and unleash a new era of prosperity and welfare for all earthlings. *For ever and ever, Amen*. Among these are a number of scientists and researchers, who have undertaken to "prove" the feasibility of a 100% renewable world through very elaborate energy systems models. Their abstract models of course prove what they are intended to prove – as most abstract models typically do. Hence, they say, the advent of *renewable heaven* is possible, and all that's preventing it is a lack of "political will"... Their work is a major source of inspiration for a number of prominent climate activists, and also, no doubt, for many of the young climate strikers around the world.

Yet if the plans and scenarios that are currently being put forward for a full-scale and fully-managed global transition to renewables are to constitute interesting material for historians in the future, it is unlikely to be as the original blueprints of a successfully completed move to a new

energetic underpinning for human civilization. Rather, they will probably be seen as very telling examples of how something that was “proven” to be eminently “feasible” by very bright minds actually failed to occur. These plans, in fact, and the sophisticated models on which they are based, largely ignore key determinants of human history’s dynamics, and hence constitute little else than intellectual exercises. Very interesting and creative intellectual exercises for sure, but which bear little connection to the world’s energy reality and trajectory.

The intended move to 100% renewables, it has to be reminded, has got nothing to do with previous “energy transitions”. It may even be argued, in fact, that there has never been such a thing as an “energy transition”. Historically, new sources of energy have never substituted pre-existing ones but rather supplemented them. Coal supplanted water, wind power and biomass as the world’s dominant energy source during the Industrial Revolution, but never substituted them in absolute terms. Same thing when petroleum supplanted coal at the turn of the 20th century. We have since then continued to use more and more water, wind power and biomass, as well as more and more coal. In fact we are today using more of any energy source in absolute terms than at any time in human history, only the relative composition of our energy mix has evolved over time. The total or partial replacement this century of fossil fuels by renewable energy sources, hence, would constitute a systemic change without any precedent in human history.

In addition, when new energy sources supplanted pre-existing ones in the past, it was always because they proved to be “superior” to those in terms of energetic quality and productivity. Coal supplanted water, wind power and biomass because it proved to be a much more powerful, convenient and versatile source of energy. Petroleum then supplanted coal because it was superior still in terms of energy density, power density, fungibility, storability, transportability, ready availability, convenience and versatility of use. On all these aspects it does not appear that solar and wind energy may be in the same way “superior” to fossil fuels – but rather that they are in fact significantly “inferior”. The capture of diffuse and intermittent energy flows through man-made devices is, inherently, an imperfect substitute for the extraction and burning of concentrated energy locked up in fossil fuels. Unfortunately, no amount of “innovation” is fundamentally going to change that.

The total or partial replacement this century of fossil fuels by renewable energy sources, hence, would constitute even more than an unprecedented systemic change in human history: it would represent a fundamental reversal of humanity’s energetic course. It would mean, in fact, a move towards a lower quality and lower productivity energy system, only capable of supporting a significantly reduced economic footprint. Rather than an upward transition, it would be an energetic and economic fall back down. This, by the way, is the fundamental reason why investments in solar and wind remain dependent on government support, and are still well below what experts say would be needed, “technically feasible” and “affordable”. Investments in lower productivity and lower quality energy sources generate few opportunities for financial benefits on aggregate. Hence, the hoped-for transition to wind and solar cannot be driven by the profit motive, on which capitalist societies fundamentally rely as the main incentive for investment and innovation, and which was instrumental in the advent and rapid deployment of previous energy systems transitions.

The motor of history

Since the side effects of burning fossil fuels are so damageable to the Earth's biosphere and now threaten the very hospitability of the planet, there are of course some very reasonable and rational reasons why an energetic and economic descent might be required and justified. Unfortunately, human societies are not primarily driven by rationality and reasonableness. Unlike what many in the Western world have come to believe, reason is *not* the engine of human history; it never was and there is no indication that it ever could be.

Historical evolutions and transitions do not occur because they seem to be a rational or reasonable way forward, or because some smart people find that they are technically feasible and come up with sensible and sophisticated plans for them. Rather, they occur as a result of the dialectical interplay between the conflicting or converging interests of various human groups (from social classes to nations) with regards to their respective living circumstances – and first and foremost, to their material circumstances. As these material circumstances are primarily a factor of energy and material throughput, this dialectical interplay – which in other times was called “class struggle” – logically and inevitably results in a continuous pursuit of higher energy and material throughput. The defining pattern of human history, in other words, is an endless quest and competition for more and/or better forms of energy inputs, with a view to expand and improve the outputs obtained from energy expended endo- and exo-somatically. “Economic growth” is the proxy concept commonly used to measure this rising energy and material throughput in modern, industrialised societies. Only a fraction of those populations that already benefit, thanks to fossil fuels, from a very high and seemingly assured level of energy and material throughput ever let their minds get dominated by other preoccupations.

Except maybe in tribal settings, human societies' governance mechanisms and institutions, including democratic institutions, are only instruments in the service of that quest. Whatever their type and nature, they are fundamentally designed to serve the pursuit of a higher energy and material throughput, not a lower one. They tend to break down and to get wiped out when they stop doing so or when they fail to deliver it.

What Is to Be Done?

Which brings us back to our young climate strikers. Their protest is entirely legitimate, as already stated, yet they need to understand this: governments around the world, even democratic ones, cannot and will not mandate a fossil fuel phase out and an accelerated transition to solar and wind energy, because doing so would defy their historical function and purpose. Such a decision, if it would be adopted and enacted, would quickly prove detrimental to the material circumstances of a majority of the population. It would exacerbate tensions and dissensions in society, as various groups would keep pursuing higher energy and material throughput, which would then only be attainable at the direct expense of others. In no time, other human groups (nations) across the world would seize the opportunities to achieve higher energy and material throughput relinquished by virtuous Westerners, cancelling the aggregate benefits obtained from their self-imposed restraint and possibly reversing the patterns of economic power and domination at global level. In little time, the decision to move away from fossil fuels would most probably be reversed, or the governance regime overthrown. Unfortunately, no amount of “political will” is fundamentally going to change that.

Climate strikers of the world, I am therefore sorry to say so, but you have little to expect from your governments. You can keep on striking and marching in the streets for as long as you want, that won't bring you what you hope for.



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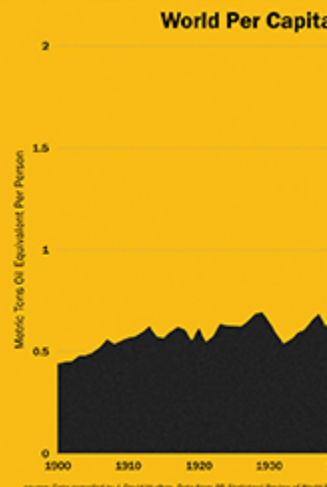
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This does not mean, however, that you cannot influence the course of history in a way that may, if not avert or reverse but at least contain the [climate chaos](#) you're going to have to face. You can. And you probably should.

Here is how: in addition to your "climate strike", or as a substitute to it if or when you get frustrated of being denied the kind of change you want, embark with all the strength and enthusiasm of your youth on an "energy diet". A big, fat, relentless and endless energy diet. Not only on Fridays, but every single day of the week, 365 days per year, for the rest of your life.

Think about it this way: climate-wrecking fossil fuels only get supplied because there is huge and rising demand for them. And this demand, ultimately, comes from you, from me, from us. The vast majority of the things we do, each and every day, in each and every aspect of our lives, entails using fossil fuels, either in your country or on the other side of the world, or somewhere in between. For most of those things fossil fuels cannot be easily and quickly substituted by energy obtained from solar and wind flows. Therefore, just stop doing them, or at least reduce what you do to what is really necessary and useful.

Want specifics? Let's start with a set of a few principles.

The energy diet principles

1. **Don't do planes.** Aircrafts burn an awful lot of fossil fuels, and are responsible for a rapidly rising quantity and share of global greenhouse gas emissions. There is zero realistic prospect for the advent of electric commercial airliners anytime soon, or for the provision of sustainable aviation biofuels on the scale required to power the world's rising fleet. So, forget about that holiday in Bangkok or Rio, or that city trip in Barcelona or Lisbon. The pleasure you would derive from it would be short-lived, but the CO₂ you would emit would stay in the atmosphere and contribute to alter the climate for hundreds of years. Just think about it for a minute, and give up the idea. Only fly if you really have to, and if you have no alternative.
2. **Don't do cruise ships either** (I know you don't, but you may be tempted some day...). Big ships use heavy fuel oil in their engines, which produces a massive amount of emissions and air pollution. A single giant cruise ship can emit as much particulate matter as a million cars every day. Overall, shipping (passengers and goods) currently accounts for 2-3% of global greenhouse gas emissions, but the sector's carbon footprint is forecasted to grow by as much as 250% by mid-century. Don't let that happen. Forget about that pseudo-romantic cruise in the Caribbean or the Mediterranean. Nowadays' gigantic cruise ships are dreadful overcrowded places anyway, and they are a plague for the port cities where they vomit their hordes of mindless tourists. Don't become one of them... You won't be missing anything, really.
3. **Don't do cars.** For some people cars are indispensable. For others, and for most of you presumably, they are largely useless. Or rather, they are disposable and vain status symbols that you can probably do without, if you try. If you live in a city, don't do too much taxi or ride hailing either: a cab or a car hailed from a smartphone app remains a polluting and emitting vehicle. Do public transportation instead. If public transportation is not good enough or is not your thing, use bicycles or electric light vehicles (e-bikes or e-scooters). If you really need to use a car some day, use car sharing or private car rental services. If you really need to own a car every day, then get yourself a hybrid or an all electric one if possible, but get yourself something as small and light as possible in any case: weighty and luxury SUVs utterly defy the purpose of going electric. For long distances prefer trains whenever possible, and enjoy the landscapes and the luxury of time. Remember in any case that there are always a lot of things to do and see near where you live, and that you can find great satisfaction in taking a vacation that costs you less and benefits your local economy.

4. **Mind what you eat.** Eat organic and local. Non-organic food is full of chemical pesticides and fertilizers that are derived from fossil fuels or require energy-intensive inputs. Non-organic agriculture pollutes the atmosphere, degrades soils, depletes water aquifers and contaminates your organism. Don't support it. As much as possible, don't buy processed food, and don't buy food or beverages in plastic packaging and containers. Remember: plastic is made from fossil fuels, and most of it ends up in the oceans where it kills wildlife and contaminates the food chain. Don't be an accomplice to this crime. As much as possible, don't do supermarkets. If you can't grow some of your own food, buy organic food directly from local producers, or through small local distributors. And remember: fossil fuels are also used to transport your food, even if it's organic. Try not to buy any food that comes from further away than 500 km/310 miles from where you live, and then reduce the radius progressively. If you really need to, throw a party to say goodbye to that delicious fruit or that exquisite wine from the other side of the planet – and then if you still feel like eating/drinking them from time to time, always do it consciously, keeping their carbon footprint at the back of your mind.
5. **Mind what you buy.** The production and transport of all the things you buy, offline or online, requires burning fossil fuels. Don't buy anything you don't really need. The replacement of need by want in consumerist societies has been and still is a fossil fuelled process, which constitutes nothing else than a deadly Faustian bargain. Just don't be another miserable little Faust and stop buying low quality, disposable crap coming from the other side of the world. Instead, get yourself fewer and more durable items, produced locally if possible. Try to avoid buying manufactured goods coming from further away than 1,500 km/930 miles from where you live, and then reduce the radius progressively. Buy second-hand stuff when possible, repair when you can and only replace when you have to. And next time you are tempted to buy this cheap, "made in PRC" item, remember that it comes with a heavy carbon price – in addition to a hefty social price, both here and there, but that's another matter.
6. **Mind where you live.** The place where you live is likely to be a major channel of your energy consumption, mostly through either heating or cooling, or both. Learn about low cost, low tech and low energy heating and insulation solutions, as well as about low cost, low tech and low energy cooling and ventilation systems. Invest time and efforts in implementing or installing them. Invest time and efforts, as well, in identifying ways of reducing your daily energy consumption and that of your whole household. Calculate your household's energy and carbon footprint, and then set yourself objectives to reduce it.
7. **Mind what you do online.** You probably spend an awful lot of time on the Internet, be it on your computer, your tablet, or especially the smartphone that now constitutes an extension of your hand and the centre of your attention. The Internet gives you access to a wealth of information and connections that can make your life richer and fuller. It is also the biggest and most addictive time-waster ever invented, and a time waster that actually consumes a lot of electricity – more and more of it in fact as more and more people and devices get online and more and more digital data gets created, processed, exchanged and stored. Most of this electricity is still generated using fossil fuels, so anything you do online also contributes to wrecking your climate. Be always mindful of what you do on the Internet. Maybe you'll end up considering that the fun you derive from playing online games, streaming "lolcat" videos or crappy songs, or sharing photos

or videos compulsively on social media is not worth their carbon footprint. Also, don't fall into the "Internet of Things" or the "human enhancement" traps. Your fridge, your shoes or your toilets don't need to be connected to the Internet. Neither do your brain or your body.

8. **Reproduce responsibly.** More people means more energy consumers, and more energy consumers typically means more energy consumed. As long as energy mostly comes from fossil fuels, more people thus means more climate-wrecking emissions. Also, remember that immigration also means more people – and that encouraging people to move to consumerist societies contradicts the objective of reducing these societies' energy use and carbon footprint.
9. **Most importantly, mind what you do for a living.** Don't go and work for climate-wrecking industries. This includes fossil fuel industries, of course, as well as all types of industries making a heavy use of fossil fuels. The industry to avoid more than any other, though, is the financial industry, since it is the one that enables all environment-damaging activities to take place on the scale at which they are taking place in modern, industrial economies. It does this, essentially by pulling consumption and investment forward through the use of debt, which is the real "raw material" of the financial services industry. Not only should you avoid working for the financial services industry, you should also avoid feeding it by getting into debt. Don't do debt, or only as little as possible, accept to live within your means, and down the line your thrift will help reduce yours and others' greenhouse gas emissions.
10. **Try to convince those around you, your friends, your parents, to go on asimilar energy diet.** Do this through talking, explaining, convincing. Most of all, do this by showing the example. This is your chance to lead by doing, and to "be the change you want to see in the world", as they say...

Climate strikers of the world, if all of you would observe this set of fairly straightforward energy diet principles and adhere to them in the years ahead, with consistency and perseverance, you could definitely have a significant impact on global emissions of greenhouse gases – far more, actually, than by protesting in the streets every Friday. In doing so, you would also take a bit of advance in adapting to the energy descent that fossil fuel depletion is likely to impose on all of us in the fairly near future, and hence you would gain a significant advantage over those – and there will be many – who will get caught unprepared.

Of course, I perfectly know that if a critical mass of people around the world would follow this advice then the growth-based global economic system would collapse, condemning many to a life of poverty and insecurity. I also know that human beings have a limited capacity for the kind of self-restraint or even self-sacrifice that this type of energy diet would entail, which is antinomic with all the things that our contemporary culture values: individuality, self-affirmation and self-promotion. Nobody really wants to renounce the kind of conveniences and the dopamine kicks that the modern world keeps offering us, even if we know that these conveniences and dopamine kicks are fossil-fuelled, that they are damaging the climate and the environment, that they are deadly.

Hence, dear climate strikers of the world, I don't expect many of you to read this list of energy diet principles, and even less of you to actually adhere to it. I don't even pretend to adhere to it

myself, even though I try and intend to try harder. The energy diet is and will remain a fringe choice, until the course of events makes it the imposed norm for all of us. However, dear climate strikers of the world, since the future you will get is definitely not going to be the future you were hoping for or are still hoping for, this is a fringe choice to which some of you may wish to start giving some thoughts.

Yours,

Paul

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