

The Climate Crisis: Unrelentingly worrying... but a chance for optimism?

Introduction

The Climate Crisis narrative is unrelentingly worrying. 2024 looks like being another year of record-breaking temperatures, horrendous floods and wildfires. Understandably, the media's focus on these troubling events naturally causes a mood of hopelessness.

However, in an [extremely interesting and thought-provoking article](#) in a recent *New Scientist* publication, a different narrative, backed by hard data, appears to show good reasons to be optimistic about humankind's progress in the last ten years to mitigate climate change. Furthermore, this progress appears to be gathering momentum, especially in China, such that its emissions may peak in the next few years, much earlier than the consensus had recently forecast.

Perhaps most significantly, the article points out that the immutable trade-off that has characterised human history, that as you get richer, you inevitably emit more CO₂, is no longer true, and evidence from a range of developed countries shows that clearly. The article does not suggest that humankind's climate crisis is not real and present. But it does clearly point out how the progress of the last ten years is reason to be optimistic that the challenge can be confronted and that the cost of winning this battle isn't falling living standards and declining human well-being.

What's changed since Paris, 2015?

When the Paris Agreement on climate change was signed in 2015, the challenge to significantly and rapidly reduce emissions looked undeliverable. That's because the technologies needed to decarbonise the world were the most expensive. Solar, wind and EVs were too expensive at the time, so it was unrealistic to expect them to be deployed at the required scale.

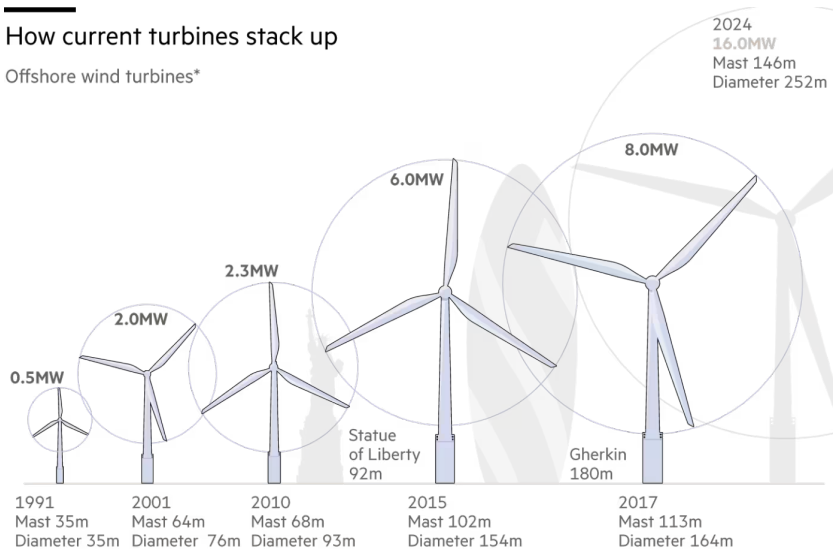
However, over the last ten years, all this has changed as the technologies have developed and manufacturing costs have collapsed. Now, China can manufacture mass-produced EVs at a cost that is competitive with the most affordable ICE vehicles. That's why they now account for approximately 60% of the new car market in China.

In the energy market, solar and wind have seen dramatic improvements in their underlying technologies and manufacturing costs such that they are now the cheapest power option almost everywhere in the world. Of course, now that they are the cheapest option, countries are deploying them at scale, especially in China, where in 2023, enough new wind and solar were deployed to power the entire UK economy.

This graphic shows how wind turbine technology has evolved over the last 30 years in terms of physical size and output.

How current turbines stack up

Offshore wind turbines*



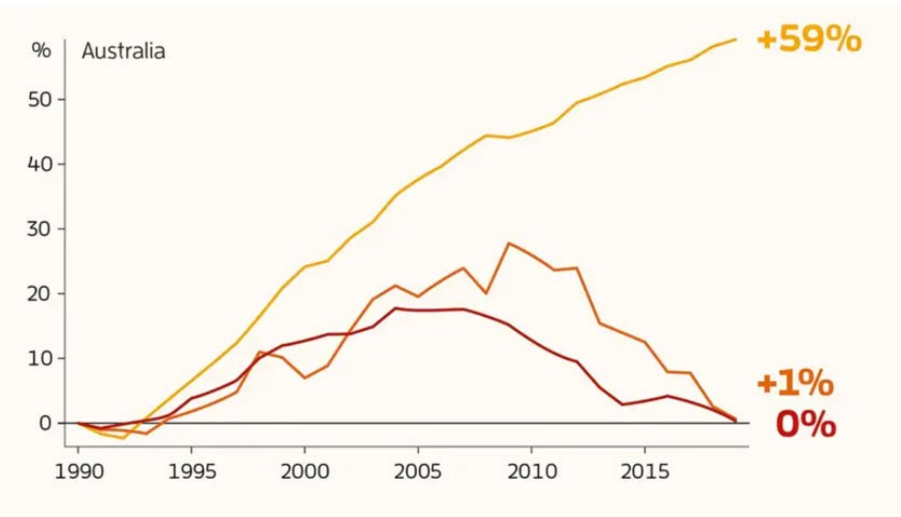
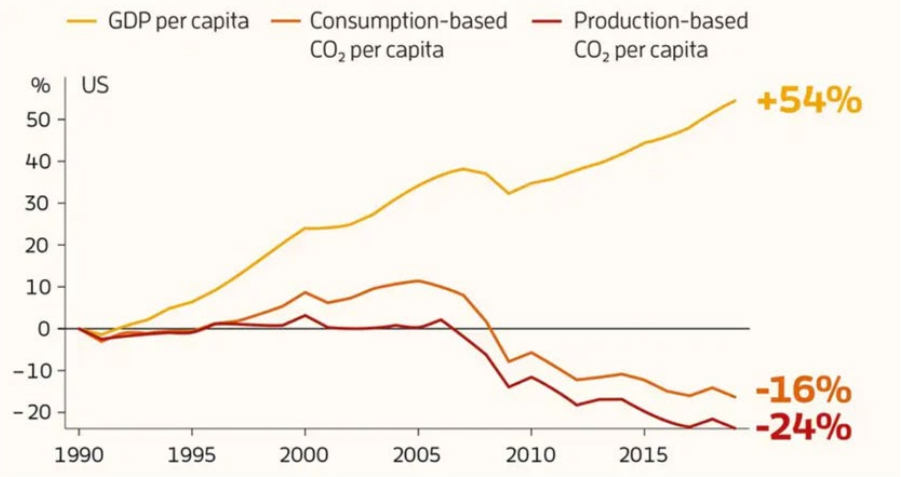
Source: FT research *Exact dimensions will vary for specific models and manufacturer
© FT

The article is written by Hannah Ritchie, a data scientist at Oxford University and lead researcher for the influential online publication Our World in Data. One of the key points she discusses in the article is the decoupling of the relationship between economic growth and emissions, and she references data from Australia, the US and the UK to illustrate the point.

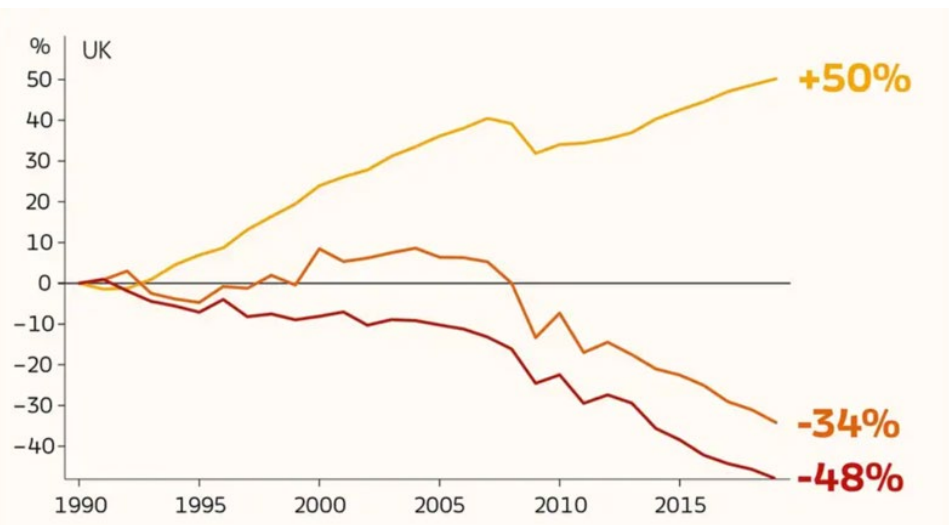


Many high-income countries have decoupled economic growth and CO₂ emissions

While GDP per capita has risen in countries like the US, UK and Australia since 1990, CO₂ emissions per person have declined



Here, the data from the UK is even more surprising for those who might have thought that tackling developed economy emissions was an unwinnable task. Importantly, the chart shows consumption-based CO₂ per capita, which takes into account international trade and emissions from items produced offshore but consumed in-country. Production-based CO₂ doesn't do this. What is clear is that in the UK, over the last 30 years, emissions have decoupled from economic growth quite spectacularly.



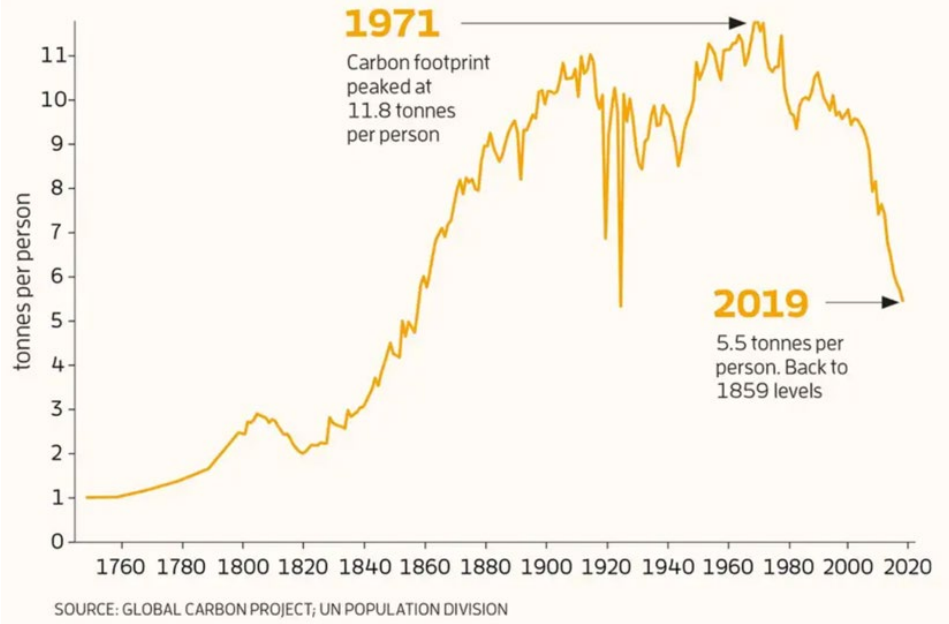
GDP has been adjusted for inflation. Consumption-based CO₂ per capita takes into account international trade and emissions from items produced offshore but consumed in-country, while production-based CO₂ doesn't. Land use change isn't included.

SOURCE: OUR WORLD IN DATA

Furthermore, and perhaps the most startling statistic in the piece, is the chart of per capita emissions in the UK going back to the 18th century. (Shown below). This shows that in the UK, emissions per person at 5.5 tonnes are back to where they were in about 1860. Most of this decline is down to the UK effectively eliminating coal, the dirtiest and most polluting fuel, from its energy mix. But this is, nevertheless, a remarkable win in the battle against climate change.

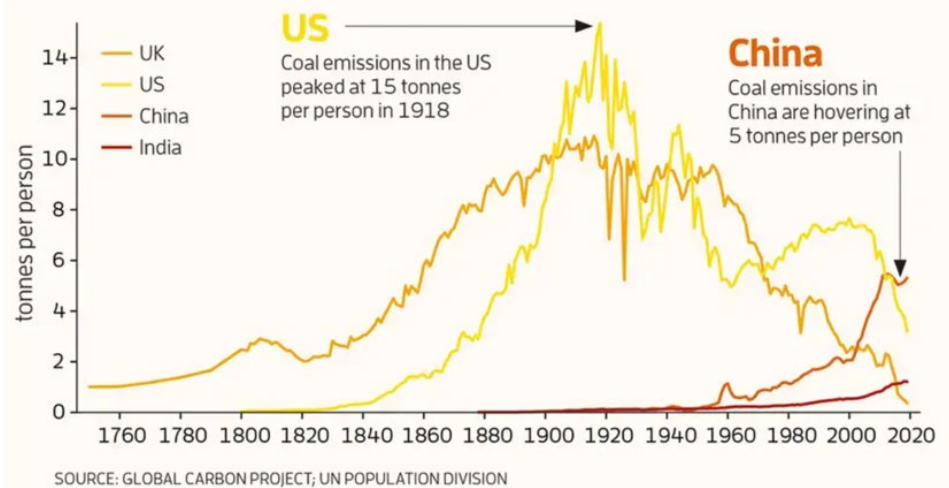
Carbon footprint in the UK is declining

Per capita CO₂ emissions are falling, mainly due to a drop in coal use



As important as this achievement is, what happens in the UK is of limited significance in a global context. What happens in China, however, is much more important. China is the world's biggest emitter from coal but its emissions per head are much lower than those that prevailed in the UK and the US in the past. (see below) Of more importance, however, is that as a result of the dramatic shift in the energy mix that is underway in China, its emissions are now expected to peak in the next 18 months or so. This is unequivocally good news for the planet, but there is much more work to be done on cutting our dependence on fossil fuels, reducing emissions of CO₂ and addressing humanity's devastating impact on biodiversity.

CO₂ emissions from coal per person are falling

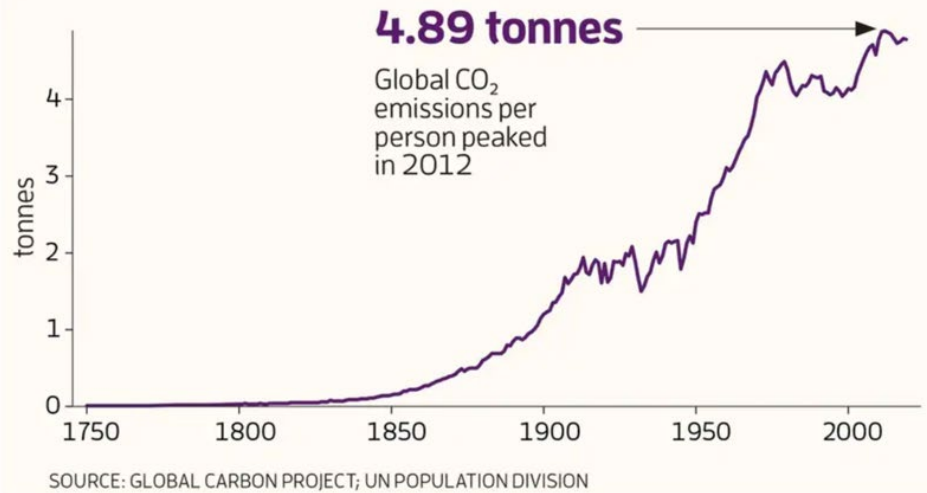


Here, too, the article offers up a positive narrative. In the past, in order to produce more food to feed a growing population, we used more land and cut down more forests. This other immutable relationship has also been broken. Modern farming practices and technology can now deliver more food from less land use and reduce agriculture's environmental impact.

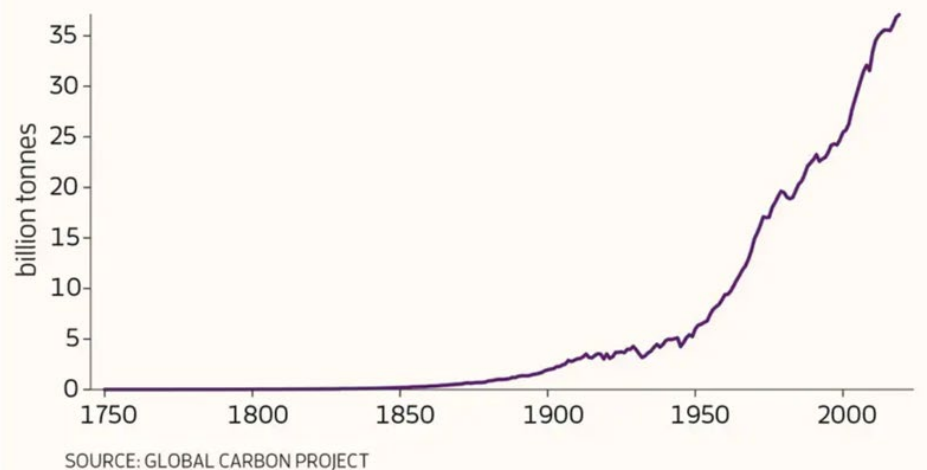
Whilst the article highlights the progress mankind has delivered in recent years in terms of emissions and agricultural productivity, the message is clear that to avoid a catastrophic rise in temperature, much more needs to be done in terms of emissions and protecting the natural environment and biodiversity. For example, although global emissions per capita have peaked, the world is still producing more CO₂, and that has to stop and go into reverse.

Global CO₂ emissions per person have peaked

Excluding land-use change, per person emissions peaked in 2012



...while total global CO₂ emissions are still rising



Conclusion

So how does the world build on this momentum to ensure emissions targets become a reality rather than a wish list? On this, too, there are reasons to be optimistic. Renewable energy costs are still falling, so deployment at scale will continue and likely accelerate worldwide. In addition, new technologies are now becoming viable that will help deliver additional emission reductions; probably the most important of those in the immediate future is carbon capture, utilisation and storage (CCUS). Deployed at scale, which is now economically feasible, this technology has the potential to make a massive difference in reducing global emissions. Agricultural technology is also improving at pace, enabling farmers to increase productivity while reducing emissions and environmental impacts.

At Curated, we have a role to play, as do we all, to contribute to this global effort to limit the impact of human-induced climate change. To this end, we are working with several businesses on the front line of this battle, developing new technologies designed to deliver against these critical priorities. C-Capture, for example, has developed a revolutionary solvent technology that delivers a step change in the efficiency, cost and environmental impact of CCUS, and 80 Acres is using leading-edge manufacturing technology combined with proprietary plant genetics and micro-climate management technology to make vertical farming at scale an economic reality.

Find out more about C-Capture and 80 Acres

Curated is representing C-Capture and 80 Acres in their current funding rounds. To find out more about the businesses, how to invest or to meet with the management teams, visit the company profile pages.

[Find out more](#)



Important information

All information used in the publication of this report has been compiled from sources that are believed to be reliable. However, no guarantee, warranty or representation, express or implied, can be given by Curated Capital as to the accuracy, adequacy or completeness of the information contained in this research, and they are not responsible for any errors or omissions or results obtained from use of such information. Neither Curated Capital, nor any affiliates, officers, directors or employees accept any liability or responsibility in respect of the information, which is subject to change without notice and may only be correct at the stated date of their issue. In no event will Curated Capital, its affiliates or any such parties be liable to you for any direct, special, indirect, consequential, incidental damages or any other damages of any kind even if Curated Capital has been advised of the possibility thereof.

This research has been prepared purely for information purposes, and nothing in this report should be construed as an offer, or the solicitation of an offer, to buy or sell any security, product, service or investment. The research reflects the objective views of Curated Capital and does not constitute investment advice. This document cannot be considered as the financial promotion, should you require more details please contact hello@curatedim.com.

Except where otherwise indicated herein, the information provided herein is based on matters as they exist as of the date of preparation and not as of any future date and will not be updated or otherwise revised to reflect information that subsequently becomes available, or circumstances existing or changes occurring after the date hereof.

The information provided in this document is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to law or regulation or which would subject Curated Capital or its affiliates to any registration requirement within such jurisdiction or country.

Some or all alternative investments may not be suitable for certain investors. Investments in small and mid-cap corporations and foreign entities are speculative and involve a high degree of risk. An investor could lose all or a substantial amount of his or her investment. Investments may be leveraged and performance may be volatile; they may have high fees and expenses that reduce returns. Securities or legal entities mentioned in this document may not be suitable or appropriate for all investors. Where this document refers to a particular tax treatment, the tax treatment will depend on each investor's particular circumstances and may be subject to future change. Each investor's particular needs, investment objectives and financial situation were not taken into account in the preparation of this document and the material contained herein. Each investor must make his or her own independent decisions and obtain their own independent advice regarding any information, projects, securities, tax treatment or financial instruments mentioned herein. The fact that Curated Capital has made available through this document various information constitutes neither a recommendation to enter into a particular transaction nor a representation that any financial instrument is suitable or appropriate for you. Each investor should consider whether an investment strategy of the purchase or sale of any product or security is appropriate for them in light of their investment needs, objectives and financial circumstances.

Certain information contained in this presentation constitutes "forward-looking statements," which can be identified by the use of forward-looking terminology such as "may," "will," "should," "expect," "anticipate," "target," "project," "estimate," "intend," "continue" or "believe," or the negatives thereof or other variations thereon or comparable terminology. Due to various risks and uncertainties, actual events or results or the actual performance of an investment may differ materially from those reflected or contemplated in such forward-looking statements. Prospective investors in a transaction should not rely on these forward-looking statements in deciding whether to invest in the transaction.

This communication is exempt from the prohibition in section 21 of the Financial Services and Markets Act 2000 on the grounds that it is made only to (1) investment professionals within the meaning of section 19 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "FPO"); (2) high net worth companies, unincorporated associations etc. within the meaning of section 49 of the FPO; or (3) persons falling within another exemption in the FPO or to whom the communication may otherwise lawfully be made (together, the "Permitted Persons"). Any person who is in any doubt about the investment to which this communication relates should consult an FCA authorised firm specialising in advising on unlisted securities. Investment in the Opportunity will only be available to UK recipients if they are Permitted Persons and this promotion must not be relied on or acted upon by other persons. Expressions of interest resulting from this communication will only be responded to if received from such persons.

Curated Capital

Curated Capital Ltd is authorised and regulated by the Financial Services Conduct Authority, ADGM. Registered address Al Sila Tower, ADGM Market Square, Abu Dhabi, UAE.

hello@curatedim.com
www.curatedim.com

© 2023 Curated Capital Ltd. All rights reserved.