

The Polen Report

Stuff I find interesting.

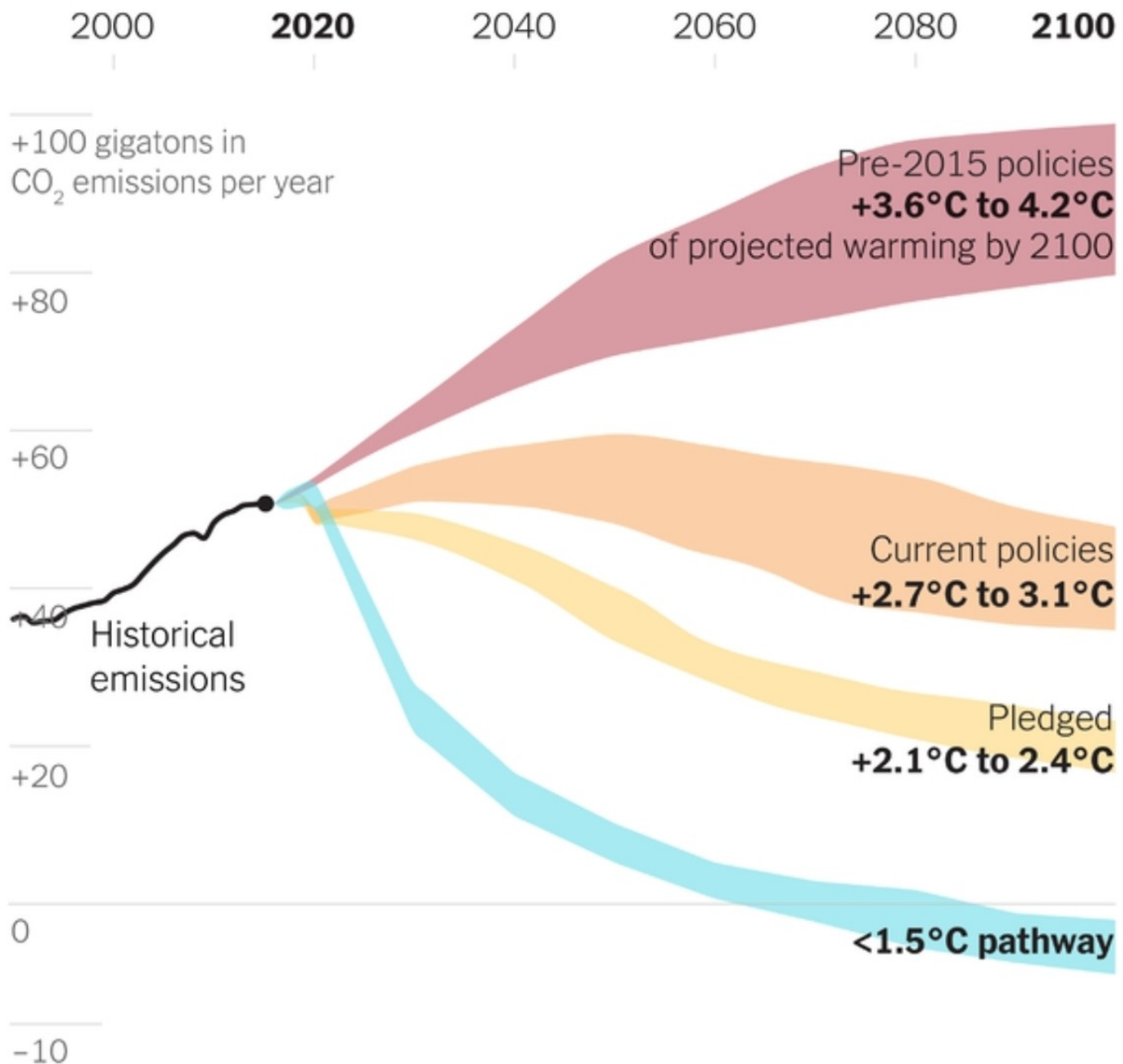
Climate Change Conundrum

👤 Mike Polen 📁 Science ⌚ April 3, 2022April 5, 2022 ≡ 5 Minutes



I'm reading my morning email from the New York Times and it causes me pause. The headline is fine "Good morning. We have reason for hope on climate change." It's the first section, "Against despair", that gets my goat (I like Urban Dictionary's sub definition: "The goat is a metaphor for your state of peacefulness"). Here is the opening paragraph or so:

Pathways of global greenhouse gas emissions



Warming is relative to the pre-industrial period. | Source: Climate Action Tracker

Dunking on the NYT is easy and is not why I am writing this. The above graph got me thinking...which is usually a good thing. What is the current best guess (prediction) about future global temperatures? How and what are we doing about it? Didn't I read something last month about the IPCC? One advantage of having Google track your every move is that they were easily able to bring up Judith Curry's post [A 'Plan B' for addressing climate change and the energy transition](https://judithcurry.com/2022/03/17/a-plan-b-for-addressing-climate-change-and-the-energy-transition/) (https://judithcurry.com/2022/03/17/a-plan-b-for-addressing-climate-change-and-the-energy-transition/) that I read on March

24th...not creepy at all. Then I remembered an excellent interview that I listened to by Isaac Saul on his podcast Tangle (<https://anchor.fm/tanglenews>) titled Scott Tinker on the future of energy (<https://anchor.fm/tanglenews/episodes/INTERVIEW-Scott-Tinker-on-the-future-of-energy-e1g0au9>). Instead of me summarizing I'll copy Tangle's summary.

Scott Tinker is an energy expert, geologist, and documentary filmmaker trying to carve out the “radical middle” on the future of energy. In today’s podcast, he discusses both the reasons we need to move away from oil (or make it cleaner) while also diving into the myths of “renewable” energy, which he says simply is not a thing. Tinker breaks down the pros and cons of fossil fuels, solar, electric vehicles, nuclear energy and much more.

— **Tangle INTERVIEW: Scott Tinker on the future of energy by Isaac Saul**

Most of this is in my frontal load at this point so I looked up the latest IPCC report (<https://www.ipcc.ch/report/ar6/wg2/>) and found this graph – you can even download the data (<https://ipcc-browser.ipcc-data.org/browser/dataset?id=3737>).

(a) Global surface temperature change Increase relative to the period 1850–1900

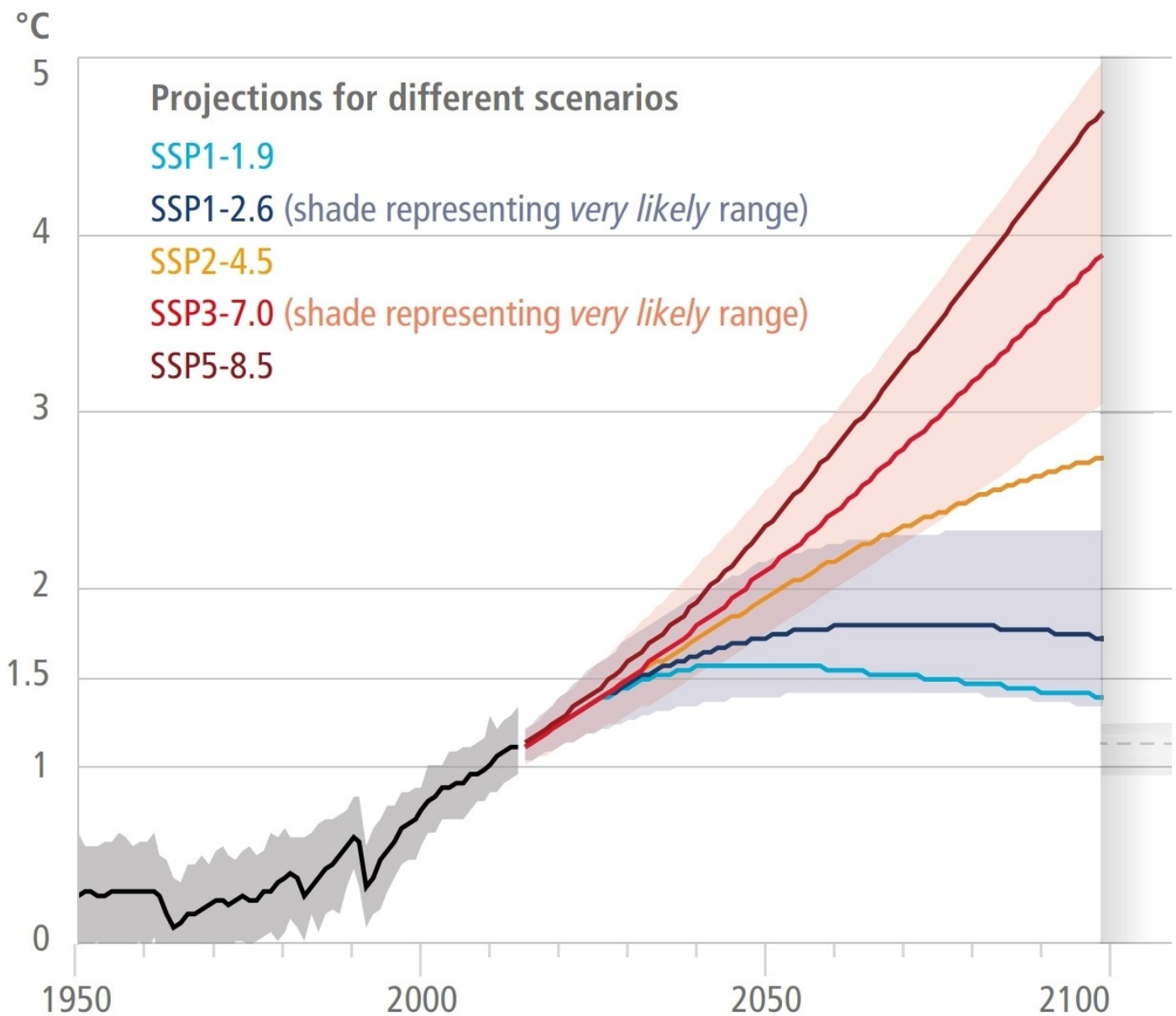


Figure: SPM.3 Climate Change 2022 Impacts, Adaptation and Vulnerability

I remembered that SSP5-8.5 was not a scenario most scientists believed to be likely but it was the scenario most often cited in non-scientific publications such as NYT 🤔 I realize I have a certain bias so I did a little googling and found the nugget (<https://www.carbonbrief.org/explainer-the-high-emissions-rcp8-5-global-warming-scenario>) below. For those who like to deep dive there is Why do climate change scenarios return to coal? (<https://www.sciencedirect.com/science/article/abs/pii/S0360544217314597>).

According to the researchers who developed it, RCP8.5 was intended to be a “very high baseline emission scenario” representing the 90th percentile of no-policy baseline scenarios available at the time.

— **Carbon Brief’s Explainer: The high-emissions ‘RCP8.5’ global warming scenario**

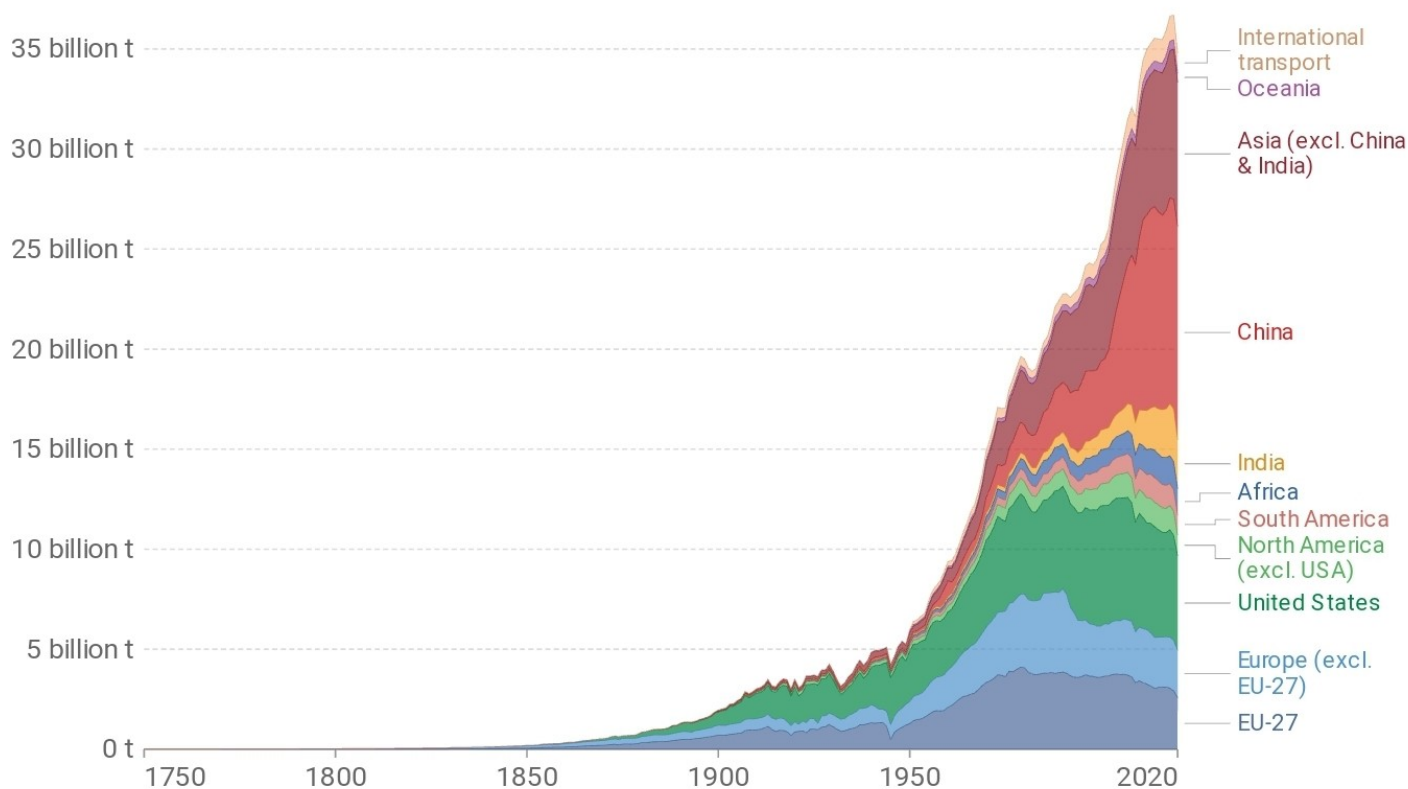
At this point you may be thinking does he have a point? I thought he said he wasn’t going to just dunk

the NYT. I have been interested in climate change for the last 20 years. Although I have no formal education in climate science, I do have a masters in computer science from Georgia Tech and I'm a pretty good comprehender of models and math and whatnot from my 30+ years of writing software. I find climate change to be a truly wicked problem (https://en.wikipedia.org/wiki/Wicked_problem?wprov=sfla1).

The mainstream media has engaged in what can best be described as propaganda with regard to climate change. They will attribute everything bad to climate change. They will use the most extreme predictions and if there's a PhD saying that obesity is caused by climate change he's on CNN 24/7! People who question some of the proclamations are labeled deniers and deplatformed (e.g. The Depravity of Climate-Change Denial (<https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.nytimes.com/2018/11/26/opinion/climate-change-denial-republican.html&ved=2ahUKEwjGrOjN6fj2AhWHMd8KHeboAPQQFnoECA8QAAQ&usg=AOvVaw0QVkaYwE5tPJRoOGLUh-YH>) – never guess which outlet this is from :-). That's religious talk. Science is about questioning and proving and striving for the truth that you may never attain. Models are representation of reality and by definition inaccurate. I find weather and climate models to be fairly accurate given what they're trying to model. I can see from my favorite weather site (<https://www.wunderground.com/forecast/us/va/glen-allen/KVAGLENA73>) that rain is coming Tuesday night and I have no doubt that it will. People take it for granted but I find that amazing!*

It's clear that pumping CO2 and methane into the atmosphere at the rate we are doing it is causing changes to our global environment. To paraphrase Scott Tinker from the interview mentioned above: last time I checked we all breathe the same air and drink the same water. It's also clear that the G7 (https://en.wikipedia.org/wiki/Group_of_Seven?wprov=sfla1) (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) cannot solve this problem. As Judith Curry states in the previously mentioned article (<https://judithcurry.com/2022/03/17/a-plan-b-for-addressing-climate-change-and-the-energy-transition/>), "By 2050, global emissions will be dominated by whatever China and India have done, or have failed to do."

Annual CO₂ emissions from fossil fuels, by world region

Our World
in Data

Source: Global Carbon Project

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

Note: This measures CO₂ emissions from fossil fuels and cement production only – land use change is not included. 'Statistical differences' (included in the GCP dataset) are not included here.

Our World in Data – CO₂ and Greenhouse Gas Emissions (<https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>)

Scott Tinker states it well when he says the solution is to stop calling energy green** or dirty. A combination of all forms (solar, wind, hydro, nuclear, natural gas and coal) is what we need. The wealthiest 10% of the world's population consumes about 20 times as much energy as the poorest 10% of the world's population, according to a study of 86 countries from researchers at Leeds University, BBC News reported (<https://www.bbc.com/news/business-51906530>). To deny the poorest among us the benefits of energy is the worst form of snobbery. Luckily there are those among us doing something about it like the Switch Energy Alliance (<https://switchon.org/>).

Global warming must be solved on a global scale and nuclear energy has to be part of any sensible plan. Carbon taxes (which I endorse) or some pie in the sky green new deal is only masking the real issue. Asia and Africa must be brought online in a sensible fashion. Calling those you disagree with deniers or unbelievers helps no one. Labeling energy green or dirty only shows your ignorance. Climate Change is the really Too Big to Fail issue of our lifetime and is a true conundrum!

*Climate models and weather models are different beasts but when I was writing my thoughts led me to weather. Earlier this year I had read some pundit claim that climate models were no better than economic models so they sucked. I pulled up the 2001 IPCC report that had model predictions out to 2100. If you look at the graph (<https://www.ipcc.ch/report/ar3/wg1/summary-for-policymakers/spmfig05/>) they had 2020 between .4C and .8C warmer than 2000 and in actuality it was about .5C. I would call that a pretty good prediction.

** Renewable and sustainable are also [buzzwords](https://en.wikipedia.org/wiki/Buzzword?wprov=sfla1) (<https://en.wikipedia.org/wiki/Buzzword?wprov=sfla1>) used to push the environmental impact towards non G7 countries. Where does the metal come from for the beloved Tesla battery? What do we do with these batteries when they are used up? Just because there is no CO2 coming out of your tailpipe does not mean you have not had a negative impact on the environment!

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