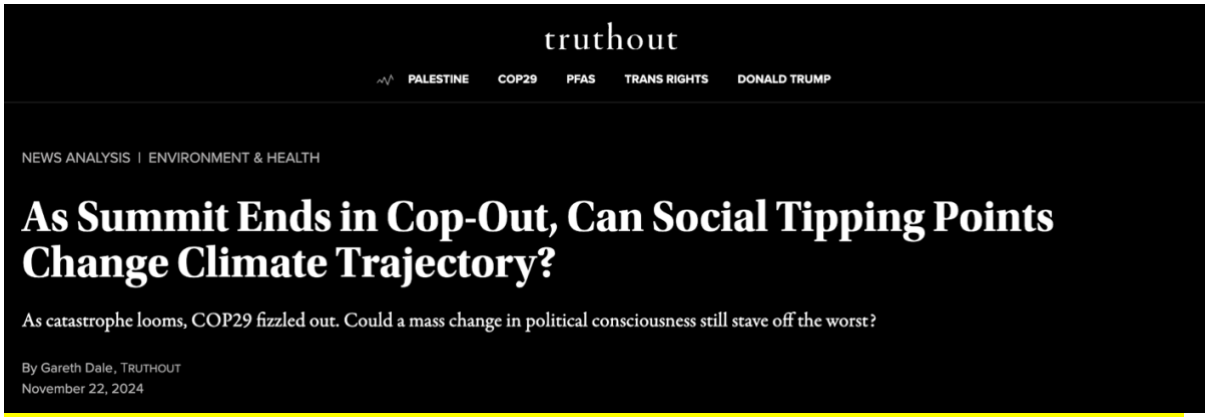


https://truthout.org/articles/as-summit-ends-in-cop-out-can-social-tipping-points-change-climate-trajectory/

Another year of climate breakdown approaches its end, marked by reports that 2024 will be the first year in which the world's average surface temperature exceeded the pre-industrial average by 1.5 degrees Celsius (1.5°C) — and by another COP climate conference. Would the 29th in the series, held in Azerbaijan, be more of the same, a fossil fuel-friendly cop-out?

It began with poetry. The COP29 president, Azerbaijan's Minister of Ecology and Natural Resources H. E. Mukhtar Babayev, addressed a 9,000-word letter to delegates, laying out areas to be discussed. At its head, an epigraph from a Persian

poet, Nizami Ganjavi, warning humankind that it could "destroy itself" if harmony "between people and nature" is lost.

The president's concern, needless to say, was entirely feigned. Babayev's epistle evaded mention of fossil fuels, except in a positive light. This was predictable. Prior to entering politics he worked for SOCAR, an oil company that stands accused of large-scale pollution as well as violations of human rights and workers' health and safety. Even as its former employee presided over the COP's opening ceremonies, SOCAR was pressing ahead with a massive expansion of drilling operations.

Altogether, COP29 was a shambolic and fractured event. The host nation used the opportunity to arrange new fossil fuel deals and granted access to 1,773 fossil fuel lobbyists plus 480 lobbyists for carbon capture and storage — Big Oil's latest dangerous and dishonest ruse to justify continued drilling. The conference's other failures include Saudi Arabia's attempt, with considerable impact, to stifle any discussion of transitioning from fossil fuels; the rich countries' refusal to pay poor countries remotely near the requisite figure to help cover decarbonization efforts and their "loss and damage" from climate change; and a revival of markets for carbon "offsets" — the scam by which rich countries and corporations pay for climate-related activities in low-wage economies in order to justify by some supernatural calculus their own failure to cut emissions. Absent were the leaders of most of the jurisdictions responsible for the climate crisis: the United States, China, the EU, Russia, Germany, Canada, Australia and France.

On the other side of the climate justice scales, Papua New Guinea's Prime Minister James Marape announced that his government would not attend, in protest at the big polluters' refusal to provide "support to victims of climate change."

The perfidy, venality and "bullshit" on display at COP29 prompted Albania's prime minister, Edi Rama, to veer off script in a moment of emperor's-new-clothes candor: "What on Earth are we doing in this gathering over and over," he said, "if there is no common political will on the horizon to go beyond words and unite for meaningful action? And adding insult to the injury, some major and minor players even boycotted this annual global event."

The Tipping Points Loom

If Rama won admiration for his truthfulness, the clarion words were those of Mia Mottley, prime minister of Barbados. A paper she submitted to the COP organizers lays out what is at stake. The extreme weather events of recent years, it warns, "suggest that humanity and the planet are hurtling toward … the ultimate tipping point."

Tipping points are moments at which a small change irreversibly alters the trajectory of a system. When you lean back on a chair, before the tipping point you can maintain equilibrium; once past it, you're heading for the floor.

In 2015, when delegates at COP21 in Paris pledged to keep the Earth's temperature to "well below 2°C," this figure was chosen because climate scientists believe that above it there is a strong risk of crossing catastrophic tipping points. Their timescales can range from tens to hundreds of years, but these are high-impact events, their probability increasing with every fraction of a degree.

One is the collapse of the Greenland and West Antarctic ice sheets. Its tipping point could be reached already at 1.5°C or 1.6°C, portending irreversible ice sheet melt leading to a global sea level rise of over 10 meters.

Another is Amazon dieback. For time immemorial, the Amazon rainforest has been a carbon sink; it is now rapidly becoming a carbon source, as vegetation dies off through drought or fire. If its tipping points are crossed, the Amazon rainforest would slowly but surely disappear.

A third is the collapse of the Atlantic Meridional Overturning Circulation (AMOC), a system of ocean currents, including the Gulf Stream that conveys tropical warmth to western Europe. Twenty years ago, its collapse appeared remote. Now, climate scientists are predicting that it could begin to tip as early as the 2040s.

These processes would likely synergize, in a cascade of feedbacks. For example, if the AMOC collapses, it will shift weather patterns over the Amazon, almost certainly hastening its dieback. The resulting carbon bomb would accelerate ice sheet melt, which in turn would increase the amount of solar radiation the Earth absorbs.

Could such a "doom loop" be nipped in the bud by economic or cultural trends, with their own soon-to-arrive tipping points?

Recent years have seen much excitement around the notion that, due to falling costs of solar and wind power, an inflection point is approaching at which the fossil fuel sector will begin to lose investors, shed customers and wither away. The U.S., *The New York Times* purports to observe, is "rapidly shifting away from fossil fuels."

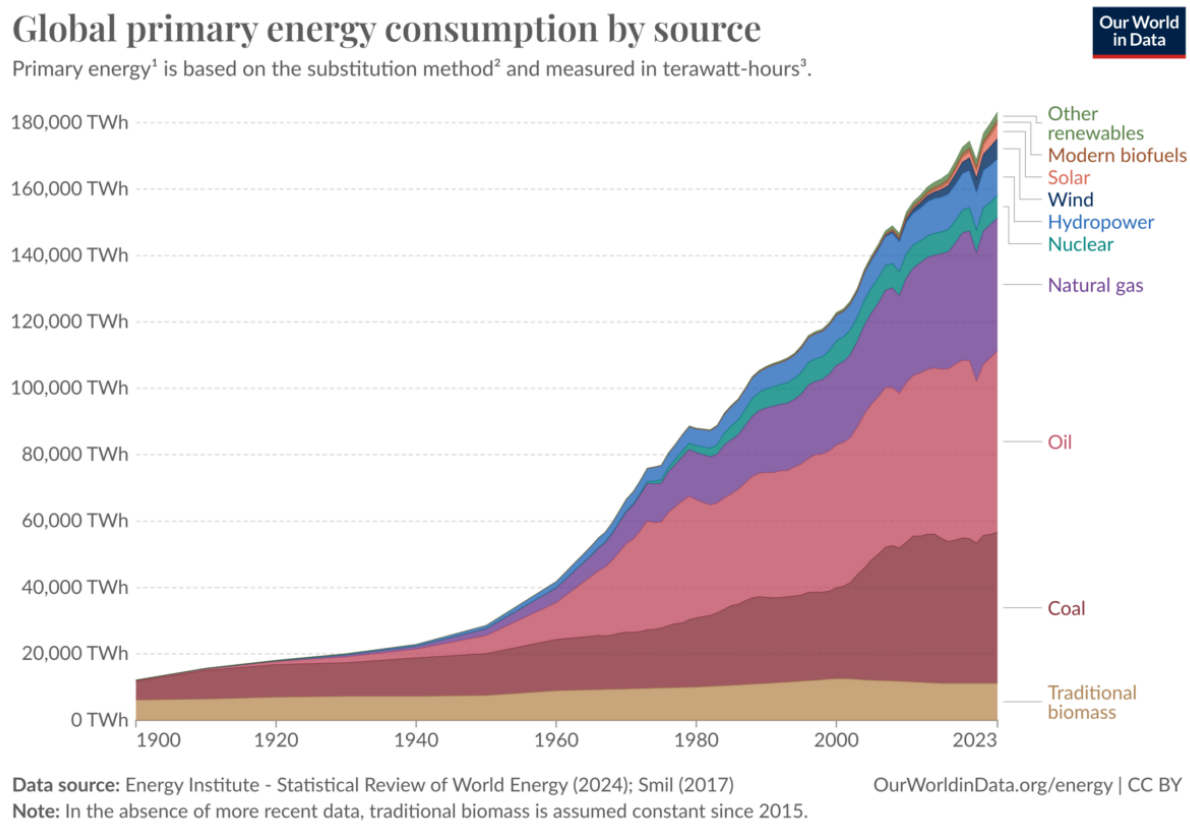
An energy tipping point, we hear from the World Economic Forum, occurs when solar and wind power reach cost parity with energy from fossil fuels, clearing the way for them to become the world's principal sources of energy. According to a major research project funded by billionaire Jeff Bezos, this is already occurring in

many countries. The change is driven by the cheapening of renewables and by uptake of electric vehicles (EVs). In the world's key EV markets, according to Exeter University academics, "an irreversible EV tipping point appears to be close." Within a year or two, EVs could make up one-quarter of the global fleet, claims one green-growth enthusiast.

These predictions are enticingly optimistic, but do they add up? Certainly, EV sales have surged globally — from half a million in 2016 to over 16 million in 2024. Yet their share of the global fleet is scarcely over 2 percent, while in the U.S. their prospects have been dimmed by President Biden imposing a 100 percent tariff on Chinese EV imports and by President-elect Donald Trump's intention to slash EV tax credits.

And yes, solar installation too has soared. Solar supplied just two terawatt hours of electricity globally in 2002; today it supplies over 1600. But this represents only 2.5 percent of global primary energy consumption, compared to fossil fuels' 82 percent. In the U.S., the share of hydrocarbons in the energy mix has not fallen "rapidly," as *The New York Times* fondly maintains, but only marginally: from 84.4 percent in 2013 to 80.6 percent in 2023. This rate of decline, if maintained, would postpone the decarbonization of U.S. energy to the year 2230. In short, no renewable energy tipping points are in view.

The main reason "energy tipping points" remain far off is soaring energy demand. As renewable energy resources grow, the combustion of coal, oil and gas continues to rise, too.



1. Primary energy: Primary energy is the energy available as resources – such as the fuels burnt in power plants – before it has been transformed. This relates to the coal before it has been burned, the uranium, or the barrels of oil. Primary energy includes energy that the end user needs, in the form of electricity, transport and heating, plus inefficiencies and energy that is lost when raw resources are transformed into a usable form. You can read more on the different ways of measuring energy in our article.

2. Substitution method: The 'substitution method' is used by researchers to correct primary energy consumption for efficiency losses experienced by fossil fuels. It tries to adjust non-fossil energy sources to the inputs that would be needed if it was generated from fossil fuels. It assumes that wind and solar electricity is as inefficient as coal or gas. To do this, energy generation from non-fossil sources are divided by a standard 'thermal efficiency factor' – typically around 0.4 Nuclear power is also adjusted despite it also experiencing thermal losses in a power plant. Since it's reported in terms of electricity output, we need to do this adjustment to calculate its equivalent input value. You can read more about this adjustment in our article.

3. Watt-hour: A watt-hour is the energy delivered by one watt of power for one hour. Since one watt is equivalent to one joule per second, a watt-hour is equivalent to 3600 joules of energy. Metric prefixes are used for multiples of the unit, usually: - kilowatt-hours (kWh), or a thousand watt-hours. - Megawatt-hours (MWh), or a million watt-hours. - Gigawatt-hours (GWh), or a billion watt-hours. - Terawatt-hours (TWh), or a trillion watt-hours.

No energy tipping point in sight. Our World in Data

In a market system, renewable energy faces an additional challenge: The more it is deployed, the cheaper it gets, lowering profitability and deterring investment — unless governments step in to subsidize or nationalize it.

As the danger of crossing Earth system tipping points grows, and energy-economic tipping points remain a distant dream, attention is turning to social tipping points. Nonlinear social change was well known to activists and social movement theorists

in the last century, with references to revolutionary risings and other collective action cascades during which political consciousness may rapidly reconfigure.

In 2000, the idea of social tipping points gained a mass audience thanks to Malcolm Gladwell — that great purveyor of clichéd reason packaged as profundity. In *The Tipping Point*, Gladwell argues that social trends spread like epidemics: They begin slowly then accelerate exponentially. If the "right kind of impetus" is applied, "people can radically transform their behavior or beliefs." The critical part is played by a minority who possess "special social gifts." These "Connectors, Mavens, and Salesmen" can cause social norms and behaviors to "tip," bringing the silent majority along with them.

In recent years, sociologists have injected political tipping points and revolutionary political cascades into the discussion. Political scientist Erica Chenoweth has propounded a "3.5 percent rule." This is the notion that no dictatorship can withstand a challenge from 3.5 percent of its population without either accommodating the movement or collapsing. The idea has been widely adopted by climate activists and organizations, notably Extinction Rebellion.

Chenoweth's rule, however, is contentious. Consider a case discussed in a book that she coauthored with Maria Stephan. They present the First Intifada in Palestine as a study of how "mass nonviolent resistance … could beat an occupation army." That the Intifada was impressive is not contentious. Well over 3.5 percent of the population engaged in committed nonviolent resistance. But did they win?
The Zionist dictatorship remains in place, backed to the hilt by the genocidal gang that occupies the White House, Pentagon and Capitol.

This is relevant to our discussion in several ways. First, Chenoweth's "rule" may apply to some political dictatorships, but not the political-economic rule of fossil capital, which is enforced not only by the oil states but above all by the global hegemon.

As Adam Hanieh details in *Crude Capitalism,* the U.S. achieved global ascendancy through a succession of oil grabs, its economic might and battleground firepower were super-charged by oil, and its sponsoring of Zionist colonialism sprang from its drive to control Middle Eastern oil.

Recognizing that fossil capital is a vastly more embedded foe than Chenoweth's dictatorships, environmentalists have adapted the numbers at which they envisage a social tipping point. For environmental activist George Monbiot, around one-quarter of a citizenry must become convinced of a new idea or perspective for the majority to follow suit. For ecologist Aaron Thierry, a "gigantic" social movement is required. To prevent it, fossil capital deploys all means, from funding far right countermovements to capturing the mainstream political class and obstructing climate talks — as we saw at COP29.

A "social tipping point" for climate politics would require much more than the rapid spreading of an idea; it would entail social conflict. From the historical record, we know that revolutionary conjunctures arise at particular moments (in the late 18th century, the 1840s, 1917-23, 1943-48 and 1968-76). These are times of "social tipping points," when historical trends can take dramatic new turns. In the last of these, powerful red-green alliances were formed, bringing environmentalists and organized labor together. Should another such conjuncture appear, its outcome

could influence planet Earth for millennia. Too late to reestablish Nizami Ganjavi's harmony "between people and nature," but early enough to prevent the worst.