How To Make Recyclable Plastics Out Of CO2 To Slow Climate Change

Ann Leslie Davis – Photo: LinkedIn.com

12-23-2023 *Chemists are manipulating carbon dioxide to make clothing, mattresses, shoes, and more.*

It's morning, and you wake up on a comfortable foam mattress made partly from greenhouse gas. You pull on a T-shirt and sneakers manufactured using carbon dioxide pulled from factory emissions. After a good run, you stop for a cup of joe and guiltlessly toss the plastic cup in the trash, confident it will fully biodegrade into harmless organic materials. At home, you squeeze shampoo from a bottle that has lived many lifetimes, then slip into a dress fashioned from smokestack emissions. You head to work with a smile, knowing your morning routine has made Earth's atmosphere a teeny bit cleaner.

Sound like a dream? Hardly. These products are already on the market around the world. And others are in the process of being developed. They're part of a growing effort by academia and industry to reduce the damage caused by centuries of human activity that has sent CO2 and other heat-trapping gases into the atmosphere.

The need for action is urgent. In its 2022 report, the United Nations

Intergovernmental Panel on Climate Change, or IPCC, stated that rising temperatures have already caused irreversible damage to the planet and increased human death and disease.

Meanwhile, the amount of CO2 emitted continues to grow. In 2023, the U.S. Energy Information Administration predicted that if current policy and growth trends continue, annual global CO2 emissions could increase from more than 35 billion metric tons in 2022 to 41 billion metric tons by 2050.

Capturing—and Using—Carbon

Carbon capture and storage, or CCS, is a climate mitigation strategy with "considerable" potential, according to the IPCC, which released its first report on the technology in 2005. CCS traps CO2 from smokestacks or ambient air and pumps it underground for permanent sequestration; controversially, the fossil fuel industry has also used this technology to pump more oil out of reservoirs.

As of 2023, almost 40 CCS facilities operate worldwide, with about 225 more in development, according to Statista. The Global CCS Institute reports that, in 2022, the total annual capacity of all current and planned projects was estimated at 244 million metric tons. The 2021 Infrastructure Investment and Jobs Act includes $3.5 billion in funding for four U.S. direct air capture facilities.

But rather than just storing it, the captured carbon could be used to make things. In 2022, for the first time, the IPCC added carbon capture and utilization, or CCU, to its list of options for drawing down atmospheric carbon. CCU captures CO2 and incorporates it into carbon-containing products like cement, jet fuel, and the raw materials used for making plastics.

CCU could reduce annual greenhouse gas emissions by 20 billion metric tons in 2050—more than half of the world's global emissions today, the IPCC estimates.

Such recognition was a significant victory for a movement that has struggled to emerge from the shadow of its more established cousin, CCS, says chemist and global CCU expert Peter Styring of the University of Sheffield in England, during a 2022 interview. He adds that many CCU-related companies are springing up, collaborating with each other and with more established companies, and working across borders. London-based consumer goods giant Unilever, for example, partnered with companies from the United States and India to create the first laundry detergent made from industrial emissions.

The potential of CCU is “enormous,” both in terms of its volume and monetary prospects, said mechanical engineer Volker Sick at an April 2022 conference in Brussels following the IPCC report that first included CCU as a climate change strategy. Sick, of the University of Michigan in Ann Arbor, directs the Global CO2 Initiative, which promotes CCU as a mainstream climate solution. “We’re not talking about something that’s nice to do but doesn’t move the needle,” he added. “It moves the needle in many, many aspects.”

The Plastics Paradox

The use of carbon dioxide in products is not new. CO2 makes soda fizzy, keeps foods frozen (as dry ice), and converts ammonia to urea for fertilizer. What’s new is the focus on creating products with CO2 as a strategy to slow climate change. According to Lux Research, a Boston-based research and advisory firm, the CCU market, estimated at nearly $2 billion in 2020, could mushroom to $550 billion by 2040.

Much of this market is driven by adding CO2 to cement (which can improve its strength and elasticity) and to jet fuel—two moves that can lower both industries’ large carbon footprints. CO2-to-plastics is a niche market today, but the field aims to battle two crises: climate change and plastic pollution.

Plastics are made from fossil fuels, a mix of hydrocarbons formed by the remains of ancient organisms. Most plastics are produced by refining crude oil, which is then broken down into smaller molecules through a process called cracking. These smaller molecules, known as monomers, are the building blocks of polymers. Monomers such as ethylene, propylene, styrene, and others are linked together to form plastics such as polyethylene (detergent bottles, toys, rigid pipes), polypropylene (water bottles, luggage, car parts), and polystyrene (plastic cutlery, CD cases, Styrofoam).

But making plastics from fossil fuels is a carbon catastrophe. Each step in the life cycle of plastics—extraction, transport, manufacture, and disposal—emits massive amounts of greenhouse gases, mainly CO2, according to the Center for International Environmental Law, a nonprofit law firm with offices in Geneva and Washington, D.C. These emissions alone—more than 850 million metric tons of greenhouse gases in 2019—are enough to threaten global climate targets.

And the numbers are about to get much worse. A 2018 report by the Paris-based

intergovernmental International Energy Agency projected that global demand for plastics will increase from about 400 million metric tons in 2020 to nearly 600 million by 2050. Future demand is expected to be concentrated in developing countries and vastly outstrip global recycling efforts.

Plastics are a severe environmental crisis, from fossil fuel use to their buildup in landfills and oceans. But we're a society addicted to plastic and all it gives us—cell phones, computers, comfy Crocs. Is there a way to have our (plastic-wrapped) cake and eat it too?

Yes, Sick. First, cap the oil wells. Next, make plastics from aboveground carbon. Today, there are products made of between 20 and 40 percent CO2. Finally, he says, build a circular economy that reduces resource use, reuses products, and then recycles them into other new products.

"Not only can we eliminate the fossil carbon as a source so that we don't add to the aboveground carbon budget, but in the process, we can also rethink *how* we make plastics," Sick says. He suggests that plastics be specifically designed "to live very, very long so that they don't have to be replaced… or that they decompose in a benign manner."

However, creating plastics from thin air is not easy. CO2 needs to be extracted from the atmosphere or smokestacks, for example, using specialized equipment. It must often be compressed into liquid form and transported, generally through pipelines. Finally, to meet the overall goal of reducing the amount of carbon in the air, the chemical reaction that turns CO2 into the building blocks of plastics must be run with as little extra energy as possible. Keeping energy use low is a unique challenge when dealing with the carbon dioxide molecule.

A Bond That's Hard to Break

There's a reason that carbon dioxide is such a potent greenhouse gas. It is incredibly stable and can linger in the atmosphere for 300 to 1,000 years. That stability makes CO2 hard to break apart and add to other chemicals. Lots of energy is typically needed to ensure that chemical reaction.

"This is the fundamental energy problem of CO2," says chemist Ian Tonks of the University of Minnesota in Minneapolis in a July 2022 interview. "Energy is necessary to fix CO2 to plastics. We're trying to find that energy in creative ways."

Catalysts offer a possible answer. These substances can increase the rate of a chemical reaction and thus reduce the need for energy. Scientists in the CO2-to-plastics field have spent more than a decade searching for catalysts that can work at close to room temperature and pressure and coax CO2 to form a new chemical identity. These efforts fall into two broad categories: chemical and biological conversion.

First Attempts

Early experiments focused on adding CO2 to highly reactive monomers like epoxides to facilitate the necessary chemical reaction. Epoxides are three-membered rings composed of one oxygen atom and two carbon atoms. Like a spring under tension, they can easily pop open.

In the early 2000s, industrial chemist Christoph Gürtler and chemist Walter Leitner of RWTH Aachen University in Germany found a zinc catalyst that allowed them to break open the epoxide ring of polypropylene oxide and combine it with CO2. Following the reaction, the CO2 was joined permanently to the polypropylene molecule and was no longer in gas form—something that is true of all CO2-to-plastic reactions.

Their work resulted in one of the first commercial CO2 products—a polyurethane foam containing 20 percent captured CO2. As of 2022, the German company Covestro, where Gürtler now works, sells 5,000 metric tons of CO2-based polyol annually in the form of mattresses, car interiors, building insulation, and sports flooring.

Other research has focused on other monomers to expand the variety of CO2-based plastics. Butadiene is a hydrocarbon monomer that can be used to make polyester for clothing, carpets, adhesives, and other products.

In 2020, chemist James Eagan at the University of Akron in Ohio mixed butadiene and CO2 with a series of catalysts developed at Stanford University. Eagan hoped to create a carbon-negative polyester, meaning it has a net effect of removing CO2 from the atmosphere rather than adding it. When he analyzed the contents of one vial, he discovered he had created something even better: a polyester made with 29 percent CO2 that degrades in high-pH water into organic materials.

“Chemistry is like cooking,” Eagan says during an interview. “We took chocolate chips, flour, eggs, butter, mixed them up, and instead of getting cookies, we

opened the oven and found a chicken potpie."

Eagan's invention has immediate applications in the recycling industry, where machines can often get gummed up from the nondegradable adhesives used in packaging, soda bottle labels, and other products. An adhesive that easily breaks down may improve the efficiency of recycling facilities.

Tonks, described by Eagan as a friendly competitor, took Eagan's patented process a step further. By putting Eagan's product through one more reaction, Tonks made the polymer fully degradable back to reusable CO2—a circular carbon economy goal. Tonks created a startup in 2022 called LoopCO2 to produce a variety of biodegradable plastics.

Microbial Help

Researchers have also harnessed microbes to help turn carbon dioxide into useful materials, including dress fabric. Some of the planet's oldest living microbes emerged at a time when Earth's atmosphere was rich in carbon dioxide. Known as acetogens and methanogens, the microbes developed simple metabolic pathways that use enzyme catalysts to convert CO2 and carbon monoxide into organic molecules. In the last decade, researchers have studied the microbes' potential to remove CO2 and CO from the atmosphere or industrial emissions and turn them into valuable products.

LanzaTech, based in Skokie, Illinois, partners with steel plants in China, India, and Belgium to turn industrial emissions into ethanol using the acetogenic bacterium *Clostridium autoethanogenum*. The first company to achieve the conversion of waste gases to ethanol on an industrial scale, LanzaTech designed bacteria-filled bioreactors to fit onto existing plant facilities. Ethanol, a valuable plastic precursor, goes through two more steps to become polyester. In 2021, the clothing company Zara announced a new line of dresses made from LanzaTech's CO2-based fabrics.

In 2020, steel production emitted almost 2 metric tons of CO2 for every 1 metric ton of steel produced. By contrast, a life cycle assessment study found that LanzaTech's ethanol production process lowered greenhouse gas emissions by more than 80 percent compared with ethanol made from fossil fuels.

In February 2022, researchers from LanzaTech, Northwestern University in Evanston, Illinois, and other institutions reported in Nature Biotechnology that

they had genetically modified the *Clostridium* bacterium to produce acetone and isopropanol, two other fossil fuel-based industrial chemicals. The spent bacteria is used as animal feed or biochar, a carbon dioxide removal method that stores carbon in the soil for centuries.

Other researchers are skipping living microbes and just using their catalysts. More than a decade ago, chemist Charles Dismukes of Rutgers University began looking at acetogens and methanogens to capture and use atmospheric carbon. He was intrigued by their ability to release energy when making carbon building blocks from CO2, a reaction that usually requires energy. He and his team focused on the bacteria's nickel phosphide catalysts, which are responsible for the energy-releasing carbon reaction.

Dismukes and colleagues developed six electrocatalysts to make monomers at room temperature and pressure using only CO2, water, and electricity. The energy-releasing pathway of the nickel phosphide catalysts "lowers the required voltage to run the reaction, which lowers the energy consumption of the process and improves the carbon footprint," says Karin Calvinho, a former student of Dismukes. Calvinho is now the chief technical officer at RenewCO2, a startup that began to commercialize Dismukes' innovations in 2018. RenewCO2 plans to obtain CO2 from biomass, industrial emissions, or direct air capture, then sell its monomers to companies wanting to reduce their carbon footprint, Calvinho says during an interview.

Barriers to Change

Yet researchers and companies face challenges in scaling up carbon capture and reuse. Some barriers lurk in the language of regulations written before CCU existed. An example is the U.S. Environmental Protection Agency's program to provide tax credits and other incentives to biofuel companies. The program is geared toward plant-based fuels like corn and sugarcane. LanzaTech's approach for producing jet fuel doesn't qualify for credits because bacteria are not plants.

Other barriers are more fundamental. Styring points to the long-standing practice of fossil fuel subsidies, which in 2021 topped $440 billion worldwide. According to the International Energy Agency, global government subsidies to the oil and gas industry keep fossil fuel prices artificially low, making it hard for renewables to compete. Styring advocates shifting those subsidies toward renewables.

“We try to work on the principle that we recycle carbon and create a circular economy,” he says. “But current legislation is set up to perpetuate a linear economy.”

The happy morning routine that makes the world carbon-cleaner is theoretically possible. It’s just not the way the world works yet. Getting to that circular economy, where the amount of carbon aboveground is finite and controlled in a never-ending loop of use and reuse, will require change on multiple fronts. Government policy and investment, corporate practices, technological development, and human behavior would need to align effectively and quickly in the interests of the planet.

In the meantime, researchers continue their work on the carbon dioxide molecule.

“I try to plan for the worst-case scenario,” Eagan said during an interview. “If legislation is never in place to curb emissions, how do we operate within our capitalist system to generate value in a renewable and responsible way? At the end of the day, we will need new chemistry.”

By Ann Leslie Davis

Author Bio:
Ann Leslie Davis is an award-winning freelance journalist whose work has appeared in Grist, Mother Jones, Science News, Modern Farmer, and many other publications. She covers biotech and climate issues, focusing on plastics and emerging carbon dioxide removal methods.

Source: Independent Media Institute

Credit Line: An earlier version of this article was published by Science News. This adaptation was produced by Earth | Food | Life, a project of the Independent Media Institute.

PVV Blog: Introduction ~ The Dutch Party For Freedom. An Analysis Of Geert Wilders' Thinking On Islam

2023/24 The reason for the series *'The Dutch Party for Freedom. An analysis of Geert Wilders' Thinking on Islam'* is the election victory of the party in the House of Representatives elections of November 22, 2022, and the shift of the party to the center of power, most probably heading to governing the country.

Throughout his career as party leader of the Party for Freedom, Geert Wilders has spoken out very critically, if not dismissively, if not discriminatingly about Muslims. The Netherlands would be better off without Muslims; Wilders dreams of a Netherlands without Islam. The party's election manifesto exudes undemocratic and anti-constitutional proposals, especially where Islam and Muslims are concerned: 'The Netherlands is not an Islamic country: no Islamic schools, Qurans and mosques,' the program states.

Jan Jaap de Ruiter has written two books about the ideas of the PVV; one, *De ideologie van de PVV. Het kwade goed en het goede kwaad* (in Dutch; translation title: *The ideology of the PVV. The evil good and the good evil)* (2012) is a refutation and criticism of the book *De schijn-élite van de valse munters. Drees, extreem rechts, de sixties, nuttige idioten, Groep Wilders en ik* (in Dutch as well: Dutch title: *The apparent elite of the counterfeiters. Drees, the extreme right, the sixties, useful idiots, Group Wilders and I*) written by Martin Bosma, party member from the very beginning and now elected Speaker of the House.
The second book, *The Dutch Party for Freedom. An Analysis of Geert Wilders' Thinking on Islam* (previously published as *The Speck in Your Brothers' Eye – The Alleged War of Islam Against the West* -2012) is an analysis of the book *Marked for Death. Islam's War Against the West and Me.*

Both books by de Ruiter can be freely downloaded here (scroll down).

In this blog, Jan Jaap de Ruiter follows the vicissitudes of the Party for Freedom in the cabinet formation and he compares the actions and statements, especially those related to Muslims, of party leader Wilders and party ideologue Martin Bosma with their own ideology. For years the party was able to work on its ideas and did everything it could to spread it. Now that the party is in the center of power, it can actually realize its ideas. How will the party act? Does the party attack democracy or does democracy resist the party? The future will tell.

The series appears in Dutch on this link (Nieuw Wij).

Jan Jaap de Ruiter (1959) is an Arabist affiliated with Tilburg University. He writes this series in a personal capacity. Contact de Ruiter at this mail address. Each new part of the series is announced on Facebook, X and LinkedIn.

Next posts

Blog 1: Geert Wilders: 'Islam Is Not A Religion. It Is A Totalitarian Ideology.'
https://rozenbergquarterly.com/pvv-blog-1-geert-wilders-islam-is-not-a-religion-it-is-a-totalitarian-ideology/

Blog 2: The Evil French Revolution Has Made Islam Even More Evil
https://rozenbergquarterly.com/pvv-blog-2-the-evil-french-revolution-has-made-islam-even-more-evil/

Blog 3: A Leopard Cannot Change It Spots, Can't He?
https://rozenbergquarterly.com/pvv-blog-3-a-leopard-cannot-change-its-spots-cant-he/

Blog 4:
The Dutch Parliament, Allegedly Created By The Threat Of Islam
https://rozenbergquarterly.com/pvv-blog-4-the-dutch-parliament-allegedly-created-by-the-threat-of-islam/

Blog 5:
The 'Monocultural Confession' Of The Dutch Party For Freedom
https://rozenbergquarterly.com/pvv-blog-5-the-monocultural-confession-of-the-dutch-party-for-freedom/

Blog 6:
Geert Wilders Is A Fascist

https://rozenbergquarterly.com/pvv-blog-6-geert-wilders-is-a-fascist/

Blog 7: Remembrance Day
https://rozenbergquarterly.com/pvv-blog-7-remembrance-day-2024/

Blog 8: The Party For Freedom Really In Power Now: A Black Day
https://rozenbergquarterly.com/pvv-blog-8-the-party-for-freedom-really-in-power-now-a-black-day/

Blog 9: An Ideology Of Exclusion In Power
https://rozenbergquarterly.com/pvv-blog-9-an-ideology-of-exclusion-in-power/

Blog 10: The Ideology Of The PVV (Party for Freedom) In Practice
https://rozenbergquarterly.com/pvv-blog-10-the-ideology-of-the-pvv-party-for-freedom-in-practice/

Blog 11: The Ideology Of The PVV In Practice: Conclusion
https://rozenbergquarterly.com/pvv-blog-11-the-ideology-of-the-pvv-in-practice-conclusion/

See also:

Jan Jaap de Ruiter – De ideologie van de PVV. Het kwade goed en het goede kwaad. (in Dutch)
https://rozenbergquarterly.com/de-ideologie-van-de-pvv-het-kwade-goed-en-het-goede-kwaad/

Jan Jaap de Ruiter – The Dutch Party for Freedom. An Analysis of Geert Wilders' Thinking of Islam.
(Previously published as The *Speck In Your Brother's Eye)*
https://rozenbergquarterly.com/the-dutch-party-for-freedom-an-analysis-of-geert-wilders-thinking-on-islam/

PVV Blog 1: Geert Wilders: 'Islam Is Not A Religion. It Is A Totalitarian Ideology'

12-23-2023 Great was the surprise and shock when the exit poll of the parliamentary election on November 22nd indicated that Geert Wilders' Party for Freedom would have secured 35 seats, a gain that became even greater the next day. With 37 seats in the chamber, the PVV left the other parties far behind, with GroenLinks-PvdA coming in second with 25 seats. The result was a surprise for the party leader himself and a big shock for the left-wing electorate and the VVD, which had led the government for 13 years.

Since its foundation in 2006, the Freedom Party has not failed to proclaim its vision on society and in particular on Islam and Muslims and has been beating the drum about the danger of Islam for the entire world all these years. The party's election manifesto speaks of a Netherlands without the Koran, without mosques and in fact the party advocates a Netherlands without Islam and therefore without Muslims.

Together with the victories of two other parties, Pieter Omtzigt's New Social Contract with 20 seats and Caroline van der Plas's BBB with seven, and possibly tolerated by the VVD (24 seats), it now seems that the PVV can start its march to the center of power. Prime Minister Wilders, who would have thought, taking over the reins from VVD Prime Minister Mark Rutte. Mark Rutte, who, oh the irony of history, refused to collaborate with the PVV after the debacle of his first cabinet, which stumbled in 2012, supported by the PVV, and fell due to that same PVV.

The PVV already achieved its first success with the election of PVV MP and veteran, and party ideologue Martin Bosma as the chairman of the House of Representatives.

The question that naturally arises after the election victory is what the PVV (Party for Freedom) will do when it comes to implementing the anti-Islam program. Before the elections, the PVV leader had repeatedly indicated in debates that he

would put his overly extreme and factually undemocratic proposals regarding Islam and Muslims "on hold," but what are these assurances worth when, for the past 20 years, he has been beating the drum of discrimination and sowing hatred?

In fact, party leader Wilders contradicted himself in his very first speech. Of course, he celebrated the significant victory, but afterward (neglecting the democratic tradition of congratulating winning parties), he told his supporters that the PVV would give the country back to the "Dutch." He didn't specify who these Dutch people are and from whom the country should be taken. Furthermore, he vowed to be a potential prime minister for all people, whether, in his words, they were "Christian, Muslim, or unbeliever."

He mentioned the word "Muslim," declaring that all people are equal to him should he become prime minister, while simultaneously expressing the intention to give the country back to "the Dutch." There is clearly a contradiction here, and we can better understand it by reading what Wilders once wrote about Islam and Muslims.

In his book *Marked for Death. Islam's War Against the West and Me*, Wilders writes: 'Islam is not a religion at all… but primarily a political ideology under the guise of a religion'.

According to Wilders, ideology is harmful, and nothing good can come from it. He associates ideology with Nazi Germany, the Soviet Union, and also with France during the French Revolution in 1789. Islam should not be "treated more leniently than other political ideologies such as communism and fascism, just because it claims to be a religion." Such an approach has significant consequences. He succinctly puts it, "That is the core of Islam: it is an ideology that strives for a global war." Surprisingly, he softens his view on Islam as a violent ideology by stating the following: "I am talking about the ideology of Islam, not about individual Muslims. There are many moderate Muslims, but that does not change the fact that the political ideology of Islam is not moderate – it is a totalitarian sect with global ambitions." However, the mitigating circumstances are minimal because, according to Wilders, moderate Muslims are people who have not yet realized how violent their religion is, and if they do, they all become potential dangers to democracy and world order, even in the Netherlands. What Wilders states in his book, he has repeated many times, including in 2015 in a discussion with the then Minister of Social Affairs for the PvdA (Labour Party), Lodewijk

Asscher, in which he said: “If anything is unconstitutional, it is Islam itself: totalitarian, violent, hateful towards apostates, homosexuals, women, and Christians.”

If Wilders considers Islam as a totalitarian ideology rather than a religion, then Muslims are not believers, and, therefore, they do not have the right to freedom of religion as stated in Article 6 of the Dutch Constitution. Hence, according to him, any proposed laws by Wilders concerning Islam are not in conflict with the constitution. Islam itself is considered unconstitutional.

Wilders’ statement that Muslims have nothing to fear if he becomes prime minister sharply contrasts with the above. I believe that if the PVV (Party for Freedom) truly comes to power, there is much for Muslims to be concerned about. The party may not immediately introduce anti-Islamic legislation, but if it sees any opportunity to implement such laws, it will not hesitate to do so.
Only time will tell, and I will keep you informed.

Previous post:
https://rozenbergquarterly.com/pvv-blog-introduction-the-dutch-party-for-freedom-an-analysis-of-geert-wilders-thinking-on-islam/

Next post:
https://rozenbergquarterly.com/pvv-blog-2-the-evil-french-revolution-has-made-islam-even-more-evil/

The Suffocation Of Democracy In India

Vijay Prashad

12-20-2023 On December 18 and 19, 141 members of the two houses of India's Parliament were suspended, as of December 19, by the Speaker of the lower house, Om Birla. Each of these members belongs to the parties that oppose the ruling Bharatiya Janata Party (BJP) and its leader, Prime Minister Narendra Modi. The government said that these elected members were suspended for "unruly behavior." The opposition had shaped itself into the INDIA bloc, which included almost every party not affiliated with the BJP. They responded to this action by calling it the "murder of democracy" and alleging that the BJP government has installed an "extreme level of dictatorship" in India. This act comes after a range of attempts to undermine India's elected opposition.

Meanwhile, on December 18, the popular Indian news website Newsclick announced that India's Income Tax (IT) department "has virtually frozen our accounts." Newsclick can no longer make payments to its employees, which means that this news media portal is now close to being silenced. The editors at Newsclick said that this action by the IT department is "a continuation of the administrative-legal siege" that began with the Enforcement Directorate raids in February 2021, was deepened by the IT department survey in September 2021, and the large-scale raids of October 3, 2023, that resulted in the arrest of Newsclick's founder Prabir Purkayastha and its administrative officer Amit Chakraborty. Both remain in prison.

Organs of Indian Democracy

In February 2022, the Economist noted that "the organs of India's democracy are decaying." Two years before that assessment, India's leading economist and Nobel Prize laureate Amartya Sen said that "democracy is government by discussion, and, if you make discussion fearful, you are not going to get a democracy, no matter how you count the votes. And that is massively true now. People are afraid now. I have never seen this before." India's most respected journalist, N. Ram (former editor of the Hindu), wrote in the Prospect in August

2023 about this “decaying” of Indian democracy and the fear of discussion in the context of the attack on Newsclick. This attack, he wrote, “marks a new low for press freedom in my country, which has been caught-up in a decade-long trend of uninterrupted down sliding in the ‘new India’ of Narendra Modi. We have witnessed a state-engineered McCarthyite campaign of disinformation, scaremongering, and vilification against Newsclick.” The world, he wrote, “should be watching in horror.”

In May 2022, 10 organizations—including Amnesty International, the Committee to Protect Journalists, and Reporters Without Borders—released a strong statement, saying that the Indian “authorities should stop targeting, prosecuting journalists and online critics.” This statement documented how the Indian government has used laws against counterterrorism and sedition to silence the media, when it has been critical of government policies. Use of technology—such as Pegasus—has allowed the government to spy on reporters and to use their private communications for legal action against them. Journalists have been physically attacked and intimidated (with special focus on Muslim journalists, journalists who cover Jammu and Kashmir, and journalists who covered the farmer protests of 2021-22). When the government began to target Newsclick, it was part of this broad assault on the media. That broader attack prepared the journalist associations to respond clearly when the Delhi Police arrested Purkayastha and Chakraborty. The Press Club of India noted that its reporters were “deeply concerned” about the events, while the Editor’s Guild of India said that the government must “not create a general atmosphere of intimidation under the shadow of draconian laws.”

Role of the New York Times

In April 2020, the New York Times ran a story with a strong headline about the situation of press freedom in India: “Under Modi, India’s Press Is Not So Free Anymore.” In that story, the reporters showed how Modi met with owners of the major media houses in March 2020 to tell them to publish “inspiring and positive stories.” When the Indian media began to report the government’s catastrophic response to the COVID-19 pandemic, Modi’s government went to the Supreme Court to argue that all Indian media must “publish the official version.” The Court denied the government’s request that the media must *only* publish the government’s view but instead said that the media *must* publish the government’s view alongside other interpretations. Siddharth Varadarajan, editor of the Wire,

said that the court's order was "unfortunate," and that it could be seen as "giving sanction for prior censorship of content in the media."

The Indian government's "administrative-legal siege" on Newsclick began a few months later because the website had offered independent reporting not only on the COVID-19 pandemic but also on the movement to defend India's constitution and on the movement of the farmers. Despite repeated searches and interrogations, the various agencies of the Indian government could not find any illegality in the operations of Newsclick. Vague suggestions about the impropriety of funding from overseas fell flat since Newsclick said that it followed Indian law in its receipt of funds.

When the case against Newsclick appeared to go cold, the New York Times—in August 2023—published an enormously speculative and disparaging article against the foundations that provided some of Newsclick's funds. The day after the story appeared, high officials of the Indian government went on a rampage against Newsclick, using the story as "evidence" of a crime. The New York Times had been warned previously that this kind of story would be used by the Indian government to suppress press freedom. Indeed, the story by the New York Times provided the Indian government with the credibility to try and shut down Newsclick, which is what they are now doing with the IT department's decision.

Upside Down World

The 141 members of Parliament are accused of trying to justify a breach of the parliament building that took place on December 13. Two men jumped from the press gallery into the hall and released smoke canisters to protest the failure of the elected officials to debate issues of inflation, unemployment, and ethnic violence in Manipur. The men received passes to enter parliament from Pratap Simha, a parliamentarian of the BJP. He has not been suspended. The BJP used this incident to suspend the opposition parliamentarians because they either did not condemn the incident, or they came out in defense of colleagues who were suspended.

Neither of the people who threw the smoke bombs into parliament nor those who planned that action have a political background, let alone any linkage to the opposition. Manoranjan D lost his job in an internet firm and had to return to assist his family work their farm; Sagar Sharma drove a taxi after he had to drop out of school due to financial problems at home. Azad had an MA, an MEd, and an

MPhil, but could not find a job. These are young people frustrated with Modi's India, but with no political connections. They tried to use normal democratic means to be heard but were not successful. Their act is one of desperation, a symptom of a broader social crisis; the suspension of the parliamentarians and the attack at Newsclick's finances are also symptoms of that crisis: the suffocation of democracy in India.

By Vijay Prashad

Author Bio: This article was produced by Globetrotter.

Vijay Prashad is an Indian historian, editor, and journalist. He is a writing fellow and chief correspondent at Globetrotter. He is an editor of LeftWord Books and the director of Tricontinental: Institute for Social Research. He has written more than 20 books, including *The Darker Nations* and *The Poorer Nations*. His latest books are *Struggle Makes Us Human: Learning from Movements for Socialism* and (with Noam Chomsky) *The Withdrawal: Iraq, Libya, Afghanistan, and the Fragility of U.S. Power*.

Source: Globetrotter

Where Are Russia And The West Still Cooperating?

John P. Ruehl – Source: Independent Media Institute

12-20-2023 *The once-promising era of Western and Russian cooperation has nearly vanished. The fragile remaining remnants leave lingering questions about the future of global stability.*

In November 2023, Russia's withdrawal from the 1990 Conventional Armed Forces in Europe (CFE) treaty marked another milestone in the unraveling of agreements between Moscow and the West. The CFE, designed to limit weapons in Europe, symbolizes the steady decline of Western-Russian cooperation. Citing NATO expansion, Russia previously suspended CFE operations in 2007, and in 2011 the U.S. and other NATO allies halted information sharing with Russia on certain treaty provisions. After Russia's November decision, the U.S. and NATO allies suspended participation in the CFE.

Optimism for global cooperation initially soared during and immediately after the 1991 Soviet collapse. In the 1990s, the U.S. and Russia established the START Missile Treaty to reduce their nuclear arsenals, created the NATO Partnership for Peace (PfP) and the NATO–Russia Permanent Joint Council (NRPJC) to facilitate joint peacekeeping and stability in Europe, and Russia joined the G-8 to enhance economic coordination.

Collaboration also grew in counter-narcotics and counterterrorism initiatives, civil emergency response, space exploration, biomedical science, and maritime search and rescue operations. The Shared Beringian Heritage Program was created to

protect regional ecosystems and indigenous communities between Russia's Far East and Alaska, and the Arctic Council and Arctic Environmental Protection Strategy came to promote similar ideals between Russia and NATO-member Arctic countries.

But by the end of the 1990s, conflicting geopolitical interests in the former Yugoslavia, coupled with NATO enlargement into Central and Eastern Europe, caused significant strain on Russia-Western relations. Washington's decision to leave the Anti-Ballistic Missile Treaty in 2002 in the aftermath of 9/11 also set a precedent, and though the SORT Treaty was signed that year to reduce strategic nuclear weapons deployed abroad, it lacked important specifics, undermining enforcement mechanisms.

Additional NATO enlargement in 2004, a 2007 U.S. proposal for a missile defense shield in Europe (that Russia argued violated parts of the START I Treaty), and Russia's 2008 invasion of Georgia further discouraged cooperation. The U.S. and Russia managed to "reset" relations in 2009, resulting in suggestions for a scaled back version of the missile shield and creation of the U.S.-Russia Presidential Bilateral Commission. And, in 2010, the New START Treaty helped prolong nuclear weapons limits, while the Joint Plan of Action reached in 2013 showcased Russian and Western coordination over Iran's nuclear program.

Nonetheless, Western relations with Russia entered a downward spiral soon after. Following the 2014 Maidan Revolution in Ukraine and the beginning of Russia's intervention in the country, Russia was immediately sanctioned and removed from the G-8. NATO and the EU also suspended or stopped cooperation and consultation with Moscow.

The 2018 U.S. withdrawal from the Iran nuclear deal highlighted the ongoing breakdown in relations. Citing Russian violations, the U.S. then withdrew from the Intermediate-Range Nuclear Forces Treaty (INF) in 2019 and Treaty on Open Skies in 2020 (with Russia leaving in 2021). Since Russia's invasion of Ukraine in 2022, cooperation between Moscow and the West deteriorated further. Sanctions against Russia were expanded significantly, it suspended participation in the New START in February 2023, with the CFE becoming the most recent link to be severed.

Amid this collapse, a few crucial areas of cooperation persist. The International

Space Station (ISS) consists of one part manufactured and operated by Russia and another by the US and other Western countries. Launched in 1998 and designed to be interdependent, the ISS has faced uncertainty since the beginning of the war in Ukraine. In July 2022, Dmitry Rogozin, then-head of Roscosmos, Russia's space agency, declared an end to ISS cooperation in 2024, comments reiterated by his replacement, Yuri Borisov, just days later.

But NASA quickly declared that Russia would continue the partnership, and Russian officials stated in April 2023 that the country's adherence to the ISS would last until 2028 (the U.S. has confirmed it will continue until the ISS is decommissioned in 2030). Roscosmos and NASA also remained committed to seat-swapping missions to the ISS, with a U.S. astronaut flying aboard a Russian Soyuz rocket in September 2022 and a Russian cosmonaut flying aboard a Crew Dragon mission to the ISS weeks later.

Energy is also a domain where there is ongoing Western and Russian cooperation. European countries are continuing to buy Russian oil and natural gas, even if some of it is delivered through intermediaries like India. Rosatom, Russia's state-run nuclear energy agency, also enjoys significant relationships with several EU and NATO members. At ITER, an international nuclear energy research project headquartered in France, Russia has made several deliveries since the start of the war in Ukraine, most recently in February 2023.

And though the U.S. has successfully weaned off Russian fossil fuels, it continues to pay billions of dollars annually to Russia for nuclear fuel and other nuclear energy assistance—in 2022, Russia was the top supplier of enriched uranium to the U.S. Since the beginning of the war in Ukraine, the Senate has attempted to introduce bills to ban Russian uranium, while a recent House bill to do so passed in December 2023. It remains to be seen if it will be passed in the Senate, and it will take years to implement.

Significant non-energy-related trade between Western countries and Russia also endures in the face of sanctions. And while many Western companies left Russia after the launch of the war in Ukraine, many did not. Others, like Volkswagen and Renault, sold their assets in Russia for a nominal fee, but with buyback clauses that could allow them to return.

Despite tensions relating largely to the conflict in Ukraine, Russia has continued

to play an active role in the Organization for Security and Cooperation in Europe (OSCE). Recent events suggest the hardline diplomatic approach to Russia is faltering. Russian foreign minister Sergey Lavrov was forbidden from visiting any EU country after sanctions were imposed on him in 2022 and was denied access to Balkan states' airspace to travel to Serbia that year. But in September 2023, Lavrov's plane was permitted to cross Greek airspace and land in North Macedonia for an OSCE meeting. The recent elections of the new Dutch and Slovak governments further suggest a diminishing political appetite among some Western countries for taking an inflexible stance against Russia.

The U.S. and Russia have also attempted to maintain open lines of communication to avoid potentially catastrophic military accidents. The Moscow-Washington hotline, established in 1963 after the Cuban Missile Crisis, was in 2015 complemented by a rudimentary channel of communication opened to avoid military conflict in Syria once Russian forces entered the country that year. And in March 2022, a deconfliction hotline regarding Ukraine was created that has so far been used once in November 2022.

Informal talks between Russia and the U.S. have also come to light. In July 2023, it was revealed that former senior U.S. national security officials had held secret talks in New York with Russian officials, including Sergei Lavrov, to negotiate an end to the war in Ukraine. These informal diplomatic discussions have allegedly been taking place at least twice a month, often online. U.S. officials denied they had ever taken place.

And despite the heightened military activity in the Arctic spurred by the conflict in Ukraine, there is optimism that nations recognize the vital significance of environmental cooperation in the region. This sentiment was underscored when Russia hosted the 13th Arctic Council meeting in the town of Salekhard in May 2023.

Current levels of cooperation are a far cry from the 1990s, where in addition to greater collaboration and dialogue in various areas, 80 percent of the world's strategic nuclear weapons were dismantled in a decade. While many avenues of collaboration have since crumbled, the ISS continues to orbit, the nuclear energy industry maintains pockets of cooperation, and strained communication lines remain open.

Yet Russia's actions, most notably its invasion of Ukraine, coupled with Moscow's distrust toward the West, cast a shadow over a more optimistic outlook. Existing nuclear agreements are languishing or ignored, and if the New START treaty expires in 2026, it could lead to a new nuclear arms race and threaten other weapons treaties. Russia's growing relationships with "rogue states" like Iran and North Korea also amplify its ability to destabilize the Western-led global order, while Russia's burgeoning relationship with China has offset Western isolation.

Since the Soviet collapse, Washington and the wider Western world have struggled to balance acknowledging Russia's influence, holding it accountable, and safeguarding global security interests. Earnest and then sporadic cooperation between Moscow and the U.S.-led West has returned to increasingly adversarial policies that rival the worst days of the Cold War. However, Russia's ability to both undermine and contribute to global stability means it cannot be simply cast aside. Despite the disparity in capabilities, managing the specter of Russia on the international stage continues to be an evolving process for Western policymakers.

By John P. Ruehl

Author Bio: This article was produced by Globetrotter.

John P. Ruehl is an Australian-American journalist living in Washington, D.C., and a world affairs correspondent for the Independent Media Institute. He is a contributing editor to Strategic Policy and a contributor to several other foreign affairs publications. His book, *Budget Superpower: How Russia Challenges the West With an Economy Smaller Than Texas'*, was published in December 2022.

Source: Globetrotter

COP28 Gave Us Another

Agreement Full of Loopholes for Fossil Fuels

Pictured is the logo for the 28th United Nations' Climate Change Conference, or COP28, being held from Nov. 30 to Dec. 12, 2023, in Dubai, United Arab Emirates. (Image from cop28.com)

12-20-2023 *It's further proof that sustained activism, not fossil fuel diplomacy, is our only hope for tackling the climate crisis.*

The outcome of global climate summits has barely changed since the United Nations held the first Conference of the Parties (COP) in Berlin in 1995. Reaching an international consensus on climate action that might avert the worst effects of global warming and put the planet on a sustainable track has always been an elusive goal due to the power of the fossil fuel industry and political short-termism. In the end, "fossil fuel diplomacy" always prevails over the interests of humanity and the planet. Yet, somehow, congratulatory statements are always made at the conclusion of every COP. In the meantime, the business of the fossil fuel industry goes on uninterrupted and carbon emissions remain on an unsustainable growth trajectory despite clean energy's growth.

COP28, hosted by the autocratic and oil-rich United Arab Emirates, concluded on December 13, with countries that were signatories of the Paris Agreement pledging to contribute to "transitioning away from fossil fuels in energy systems." COP28 president Sultan Ahmed Al Jaber, head of the Abu Dhabi National Oil Company, said that this is "a robust action plan to keep 1.5 degrees Celsius within

reach."

Hogwash. The deal reached at COP28 is not a plan, let alone a robust one, to keep the world from breaching the 1.5C climate threshold set by the Paris Agreement in 2015. An action plan includes specific, measurable and time-bound steps. The agreement of "transitioning away from fossil fuels in energy systems" is a climate pledge that does represent a progression beyond previous pledges, but it is still merely a pledge, i.e., a non-legally binding promise. President Joe Biden's campaign was full of pledges on climate change and environmental justice but, since he entered the White House, his policies have been nothing short of a real boost for fossil fuels. Rich countries have failed to deliver on funding pledges to poor nations. And most countries are failing to transform their climate commitments into action. So much for pledges.

Adding insult to injury, "it is a plan that is led by the science," said the very same oil man who just recently declared that there is "no science" to phasing out fossil fuels. The science is clear: Fossil fuels must go. But the term "phaseout" was rejected by petrostates like Saudi Arabia and United Arab Emirates and by the world's two biggest climate polluters — the United States and China.

The COP28 agreement also incorporated into the final text extremely feeble language toward the dirtiest of all fossil fuels — coal. Countries recognized the need to accelerate "efforts toward the phasing-down of unabated coal power," which is language used in previous global climate summits, but the deal is silent on limiting new coal-fired power plants. China, in fact, is moving forward with new coal-fired power construction even as it pledges to reduce the use of coal during its next five-year plan. Moreover, the term "unabated," when it comes to fossil fuels, "means doing nothing to reduce carbon dioxide and other greenhouse gases from the burning of coal, oil and natural gas" and is actually associated with carbon capture and storage technologies.

Indeed, indicative of the litany of loopholes included in the final COP28 text that essentially offer the fossil fuel industry major escape routes is the emphasis on unproven technologies like carbon capture and utilization and storage. The utilization of such technologies for an allegedly lower-emission future will only guarantee that fossil fuels remain around for the indefinite future. In fact, as India's leading business newspaper, *The Economic Times* put it, the takeaway from COP28 is that fossil fuels are "here to stay for years."

In sum, to label the outcome of the COP28 global climate summit — a non-binding pledge based on feeble wording that doesn't even set any limits on the production of oil, gas and coal — a "historic" deal is simply preposterous.

But there is more to the failure of COP28. The deal operationalized the loss and damage fund to help vulnerable countries cope with the devastating impacts of global warming, but the financial pledges of around $790 million fall way short of "the trillions eventually needed to support developing countries with clean energy transitions, implementing their national climate plans and adaptation efforts," according to the UN. The economic cost of loss and damage that developing countries need has been estimated to be greater than $400 billion a year.

We are in a race against time to stop global warming. COP28 failed to rise to the occasion in a big way. "This agreement contains major industry escape hatches for disastrous gas expansion, plastics proliferation and dangerous climate scams like carbon capture and storage," Jean Su, director of the Energy Justice Program at the Center for Biological Diversity, told *Truthout*. "It also fails to offer both the needed financial support to developing countries and meaningful commitment from rich countries to move first. Getting 'fossil fuels' into the final decision is a win in process, but not in the practical fight for survival of life on Earth."

COP28 should be seen as a "historic" failure instead of a "historic," game-changing agreement. A historic climate agreement would be one that includes unwavering commitments to end fossil fuel subsidies; ban banks from funding new fossil fuel projects, as they have pumped trillions of dollars into oil, gas and coal since the Paris Agreement was adopted; wipe off the debt of all lower-income countries, which now spend several times more on serving debt than dealing with the devastating effects of global warming; and promote a coordinated plan to finance the Global Green New Deal.

We are, of course, very far from the realization of such lofty expectations. In fact, COP28 confirmed what we already knew, which is that "fossil-fuel diplomacy" can never be expected to break out of the business-as-usual approach to climate change. Activism remains our only true hope. This is why it is more than crucial that the struggle to force governments to listen to the voices of their citizens not only continues but intensifies, as the 2024 UN Climate Change Conference is less than a year away. (COP29 will be held in Azerbaijan — yet another autocratic and fossil-fuel-funded regime.) Indeed, as Su said, "People power has gotten us here

and the momentum is stronger than ever. The fight to end oil, gas and coal must now be taken up at the country level with the United States leading the way by halting new fossil fuel project approvals and setting a strong nationally determined contribution for next year's COP29."

C.J. Polychroniou is a political scientist/political economist, author, and journalist who has taught and worked in numerous universities and research centers in Europe and the United States. Currently, his main research interests are in U.S. politics and the political economy of the United States, European economic integration, globalization, climate change and environmental economics, and the deconstruction of neoliberalism's politico-economic project. He is a regular contributor to *Truthout* as well as a member of *Truthout's* Public Intellectual Project. He has published scores of books and over 1,000 articles which have appeared in a variety of journals, magazines, newspapers and popular news websites. Many of his publications have been translated into a multitude of different languages, including Arabic, Chinese, Croatian, Dutch, French, German, Greek, Italian, Japanese, Portuguese, Russian, Spanish and Turkish. His latest books are *Optimism Over Despair*: *Noam Chomsky On Capitalism, Empire, and Social Change* (2017); *Climate Crisis and the Global Green New Deal*: *The Political Economy of Saving the Planet* (with Noam Chomsky and Robert Pollin as primary authors, 2020); *The Precipice*: *Neoliberalism, the Pandemic, and the Urgent Need for Radical Change* (an anthology of interviews with Noam Chomsky, 2021); and *Economics and the Left*: *Interviews with Progressive Economists* (2021).