# 1

#### Congress is inching towards a funding deal—but, it’s a deliberate dance to keep them focused on funding while avoiding political complications

Romm 2/2 [Tony Romm is the congressional economic policy reporter at The Washington Post, tracking infrastructure reform, government spending and the financial impacts of federal decision-making nationwide, "Democrats, GOP inch ahead toward potential deal to fund government, avert shutdown", 2/2/22, https://www.washingtonpost.com/us-policy/2022/02/02/democrats-republicans-spending-shutdown-covid/]

Top Democrats and Republicans inched forward Wednesday in pursuit of a deal that could fund the federal government for the remainder of the fiscal year, hoping to stave off a shutdown while potentially pumping new spending into health care, education, science and defense. The continued negotiations marked the second consecutive day of developments on Capitol Hill, as lawmakers who oversee the federal purse increasingly have come to express a measure of confidence that they can act before an upcoming Feb. 18 deadline — and overcome months of prior political disputes and delays. Since President Biden took office, the U.S. government has operated under short-term measures that sustain key federal agencies and programs largely at their existing spending levels. The stopgaps have kept the government running, but they have also delayed Democrats from delivering on some of the White House’s top priorities, from expanding affordable housing to confronting climate change. Republicans appeared content to continue in that vein, essentially dealing a political blow to Biden’s agenda in the process. But the two sides have come to see mutual benefit in striking a longer-term resolution, putting aside their differences at a moment when the United States continues to confront the pandemic at home and faces new diplomatic challenges abroad. The omicron variant of the coronavirus has sparked fresh discussions about the need for another round of federal aid, while the intensifying standoff between Russia and Ukraine has emboldened a Republican-led push to spend more on defense. Both spending priorities could be appended to any new government funding measure, provided the two sides can reach a deal in the first place. In a sign of progress, Republicans on Wednesday presented a counter-offer for federal spending over the rest of the 2022 fiscal year, which Democrats are reviewing. The GOP move had the effect of temporarily delaying a planned afternoon meeting of the House and Senate’s top appropriators, but it still reflected a new seriousness among negotiators who until now hadn’t traded such proposals. Yet new political fault lines also emerged Wednesday. Taking to the chamber floor earlier in the day, Senate Minority Leader Mitch McConnell (R-Ky.) foreshadowed what could be staunch GOP opposition to another round of pandemic relief, as he cited roughly $6 trillion in spending that has been approved since the start of the public health emergency in 2020. “Let’s start the discussion by talking about repurposing the hundreds of billions already sitting in the pipeline,” McConnell said. Lawmakers begin discussing government spending deal as Democrats eye virus aid, paid leave The promises and platitudes nonetheless amounted to noteworthy progress on Capitol Hill, a place where partisan disagreements these days have come to transform all but the most basic debates into intractable conflicts. Twice in recent months, the appropriations process has nearly brought federal agencies to a screeching halt, threatening to shut down the government and hamstring the country’s response to the pandemic. Republicans at the end of last year even held up a swift resolution to the funding fight to launch an ill-fated political campaign against Biden’s vaccination and testing mandates targeting businesses. The Supreme Court later struck down some of the administration’s policies. This year, lawmakers from both parties have pledged to steer clear of the same brinkmanship that characterized negotiations in fights past. Instead they have aimed for a deal that covers spending through the fiscal year, which concludes at the end of September. But they already face a race against the clock to act by Feb. 18, the date by which lawmakers must adopt another short-term measure or broker the sort of compromise that has so far eluded them during Biden’s presidency. With the clock ticking, Democrats huddled Tuesday morning to discuss their political strategy. Emerging from the gathering, House Speaker Nancy Pelosi (D-Calif.) and Senate Majority Leader Charles E. Schumer (D-N.Y.) each offered their public, formal blessings for the nascent talks around a longer-term spending deal. Schumer added that the party’s negotiators are “on the same page,” though he and Pelosi noted they had not yet received an official counteroffer from their GOP counterparts. The leaders of the House and Senate’s top panels overseeing appropriations then gathered on their own late Tuesday to try to put pen to paper. One of the participants in the bipartisan session, Sen. Richard C. Shelby (R-Ala.), later told reporters that lawmakers are still seeking an “agreement on our principles, then the [spending] top line will follow.” Shelby acknowledged at the time that a slew of policy gaps still separate the parties, including the balance between “social spending versus national security.” But he joined his Democratic counterparts in maintaining that “we all want to try to get to yes,” adding: “We’re not there yet.” Democrats seek significant boosts in federal domestic spending, now that the country for the first time in a decade is not bound to strict budget caps. Writing to her caucus last month, Pelosi endorsed the need for a “strong omnibus” that would “address critical priorities for our country, including for our national security and for communities at home.” Yet some of the Democrats’ proposed spending increases and policy tweaks have troubled Shelby and his fellow Republicans. Beginning last year, they pointed to a series of “poison pills” — from Democratic plans to enhance the IRS to the party’s effort to loosen a long-standing ban on federal funding for abortion services — that could sink any talks on a deal. GOP lawmakers also have called for parity in defense and nondefense spending, a move that historically has troubled some Democrats, who have sought greater cuts to the Pentagon than even Biden has proposed. “We’re looking for parity. We live in a troubled world and a lot of us think national security is important for this country,” Shelby, who leads the GOP on the Senate’s appropriations panel, stressed on Tuesday. Democrats and Republicans otherwise appeared to downplay any potential disagreements following their flurry of meetings. Sen. Patrick J. Leahy (D-Vt.), the chairman of the chamber’s appropriations panel, described himself as “always optimistic.” Rep. Rosa L. DeLauro (D-Conn.), his counterpart in the House, declined to specify any timelines or expectations for the follow-up session set for Wednesday afternoon. “The goal is to get an agreement,” DeLauro said. But such a deal, known in congressional parlance as an omnibus, is likely to carry additional significance this year. The compromise could pave the way for billions of dollars to flow toward projects that would improve the nation’s roads, bridges, pipes, ports and Internet connections. Lawmakers approved the money as part of a bipartisan infrastructure law finalized in 2021, but the package requires them to complete the act of writing the check, so to speak, before the real work can begin. The must-pass spending measure also could serve as a legislative vehicle for lawmakers to advance a slew of other critical priorities. That includes new disaster aid in response to recent hurricanes and the tornadoes in and around Kentucky last year, for example, along with billions of dollars to augment the country’s efforts to combat the coronavirus. With cases still rampant from the omicron variant, Democrats in recent weeks have renewed their calls for more federal spending to boost testing, therapeutics and vaccine access, especially abroad. Others have sought to provide additional benefits to workers, including the revival of a program that offers limited, pandemic-related paid family and medical leave. And still other Democrats have joined with a small but growing crop of Republicans who hope to give the green light to new assistance targeting restaurants, gyms, stages and other small businesses. Lawmakers begin talks on another round of coronavirus relief for businesses Publicly, the White House has maintained in recent months that significant money remains as part of the roughly $1.9 trillion American Rescue Plan that Biden signed into law last spring. White House officials, meanwhile, have quietly started preparing a supplemental request focused on outstanding public health needs. But the Biden administration by Tuesday afternoon had not transmitted any official request to the Capitol, Democratic leaders said. “We’re waiting for the administration to send us something. They haven’t sent us anything yet,” Schumer told reporters. Some party aides acknowledged it had become a deliberate, delicate dance, reflecting an attempt to keep Congress focused on solidifying government funding levels without adding any other political complications.

#### Space policy causes immense partisan backlash that wrecks the delicate balance

Dreier 16 [Casey Dreier, Chief Advocate & Senior Space Policy Adviser for The Planetary Society, April 13, 2016. “Does Presidential Intervention Undermine Consensus for NASA?” https://www.planetary.org/blogs/casey-dreier/2016/0413-does-a-strong-president-help-or-hurt-consensus-on-NASA.html]

To see how this happens, I recommend reading the book “[Beyond Ideology](http://smile.amazon.com/Beyond-Ideology-Politics-Principles-Partisanship/dp/0226470768/ref=smi_www_rco2_go_smi_g2243582042?_encoding=UTF8&*Version*=1&*entries*=0&ie=UTF8)” by Frances Lee. The author’s larger premise is that issues having no intrinsic relation to stated party ideology have become increasingly polarized in recent years. This is a function of the two party nature of our political system. If your party coalition wins, the other one loses. It’s [It is] zero-sum. Your party can win in one of two ways: you can make a better pitch to voters by demonstrating the superiority of your agenda; or you can undermine and stymie the agenda of the opposition party, making them unpopular with voters, and pick up the seats that they lose. Since you’re the only other political party, you gain in either scenario. I’m not sure if you’ve noticed, but the “undermine and stymie” approach has been popular for quite some time now in the U.S. Congress. Given this situation, the President and their policies naturally become the symbolic target of the opposition party. Anything promoted by the President effectively induces opposition by association. Lee demonstrates the magnitude of this induced polarization on various types of issues. For highly polarized issues like the role of government in the economy, or social issues, the impact is minimal—the opposition has already been clearly defined and generally falls into clearly defined ideologies of the Republican and Democratic parties. But for issues that do not fit readily into a predefined political ideology—like space—the induced polarization by the President can be significant. In fact, Lee showed that space, science, and technology issues incur the greatest increase in partisanship based on their inclusion in the Presidential agenda. One need only look to at the responses by political operatives of the opposing party to the strong human spaceflight proposals by [Barack Obama in 2010](http://www.shelby.senate.gov/public/index.cfm/mobile/newsreleases?ID=25F3AD2E-802A-23AD-4960-F512B9E205D2), [George W. Bush in 2004](http://www.nbcnews.com/id/3950099/ns/technology_and_science-space/t/bush-sets-new-course-moon-beyond/#.Vw3UMRMrKHo), and [George H.W. Bush in 1989](http://www.nytimes.com/1989/07/21/us/president-calls-for-mars-mission-and-a-moon-base.html) to see this reflected in recent history. This isn’t to say that Presidents can’t have a significant impact on the space program. Clearly they can. But the broad consensus needed for stability after their departure from office may be undermined by the very priority they gave it during their tenure. It what amounts to a mixed blessing for NASA, the U.S. space program does have an unusually strong bipartisan group of politicians who support the program due to NASA centers in a variety of states throughout the union. Berger notes this throughout his article, and it does, in a way, act as force that is resistant to change for good and bad. This mitigates somewhat the pure polarization seen on other science and technology issues. But for a Journey to Mars—a major effort that would, at best, require stability and significant funding over many Presidential administrations—that may not be enough. Perhaps the solution is for the next President to maintain a light touch on space. Maybe they should speak softly through the budget process, and avoid the Kennedyesque speeches and declarations to Congress that induce the types of partisanship we so dearly need to avoid.

#### Appropriations bill sends the strongest deterrent signal to Putin—prevents Ukraine invasion

Clevenger 2/3 [Andrew Clevenger, "Congress should pass defense budget to deter Putin, senators say", 2/3/22, https://rollcall.com/2022/02/03/congress-should-pass-defense-budget-to-deter-putin-senators-say/]

One of the most powerful messages Congress could send to deter Russian President Vladimir Putin from invading Ukraine would be to pass a defense appropriations bill, two members of the Senate Armed Services Committee said Thursday. Speaking at an event hosted by the Wilson Center, Mississippi's Roger Wicker, the second most senior Republican on the Armed Services Committee, said funding for the Defense Department could be part of a larger omnibus spending bill. He urged President Joe Biden to get personally involved, and to call House and Senate leadership to a meeting as soon as possible to iron out any lingering differences over spending levels. “Everybody agrees that working off of defense appropriations from a year and a half ago are completely inadequate and sends exactly the wrong signal not only to Vladimir Putin but to our friends and potential adversaries all over the world,” he said. “I hope what is about to happen would build a fire under us. Let’s get our national defense spending up to date.” New Hampshire Democrat Jeanne Shaheen, a senior member of both the Armed Services and Foreign Relations committees, agreed “You’re absolutely right,” she said. “Putin’s thinking, ‘Boy, they can’t even pass a budget, never going to be able to unite against our actions,’ and China is looking at that as well.” Funding deadline The government is currently funded via a continuing resolution, which locks in spending at the levels established by the previous fiscal year’s spending bills. The current continuing resolution is set to expire on Feb. 18, meaning Congress will either have to enact new spending bills, pass another continuing resolution, or face a government shutdown. The top Democrats and Republicans on the House and Senate Appropriations committees have met repeatedly in recent days, but no deal has been announced.

#### Goes nuclear – expert consensus, miscalc, Russian doctrine, public nuclear threats, warhead ambiguity, and spillover guarantee extinction

**Bender 1/27** – Bender, Brian, 27 January 2022, “Nuclear fears mount as Ukraine crisis deepens,” POLITICO, <https://www.politico.com/news/2022/01/27/nuclear-fears-mount-ukraine-crisis-deepens-00003088>, Bryan Bender is a senior national correspondent for POLITICO, where he focuses on the Pentagon, NASA, and the defense and aerospace industries. He was previously the national security reporter for the Boston Globe, where he covered U.S. military operations in the Middle East, Asia, Latin America, and the Balkans. He also writes about terrorism and government secrecy. He is an adjunct professor at the Walter Cronkite School [Harker KB]

As Russian troops bear down on Ukraine and the United States prepares its own military buildup in Eastern Europe, concerns are growing across the ideological spectrum that the standoff could inadvertently escalate into the unthinkable: nuclear war. President Joe Biden has insisted that he will not use American forces to directly defend Ukrainian territory against a possible Russian invasion. But that is no guarantee that the two sides won’t come to blows. The world’s two largest nuclear powers could even stumble into nuclear confrontation if the situation spins out of control, current and former officials and experts on both sides of the Atlantic worry. “At the point you unleash war in the modern environment, the one thing that is certain is the law of unintended consequences,” Des Browne, a member of the British Parliament and a former secretary of state for defense, told POLITICO. “If you are talking about a nuclear-armed environment, which is already fragile … then you are living in an environment [where] things could escalate quite quickly, by accident or miscalculation.” “Nobody thinks any of these weapons are going to be used deliberately, but miscalculation is a significant chance,” added Browne, who chairs the [Euro-Atlantic Security Leadership Group.](https://www.europeanleadershipnetwork.org/networks/euro-atlantic-security-leadership-group-easlg/) It’s a concern shared by current and former nuclear security officials who usually don’t agree on much — from disarmament advocates to nuclear hawks. “I think the Ukraine conflict is demonstrating that the nuclear escalation scenario we’re worried about is not out of sight,” said Patty-Jane Geller, an expert on nuclear strategy at the hawkish Heritage Foundation. Last week, the Bulletin of the Atomic Scientists cited the Ukraine conflict as contributing to its decision to [keep the “Doomsday Clock” at 100 seconds to midnight](https://thebulletin.org/doomsday-clock/current-time/), an indication of how close it assesses that the human race is to potential self-annihilation. “Ukraine remains a potential flashpoint, and Russian troop deployments to the Ukrainian border heighten day-to-day tension,” it noted in citing the threat of a nuclear conflict. A primary concern, according to Geller and others, is Russia’s arsenal of thousands of battlefield nuclear weapons, which are central to its military strategy. “The Russians have something like 4,000 [tactical nuclear weapons] and they have an ‘escalate to win’ nuclear doctrine, which says ‘we use nuclear weapons first if the conventional conflict starts to spin out of our favor,’” said a former senior GOP government official who still works on nuclear security issues. One Russian diplomat last month went so far as to [publicly threaten](https://www.voanews.com/a/russia-threatens-to-deploy-tactical-nuclear-weapons-/6354408.html) the deployment of tactical nuclear weapons in the crisis. The weapons have a lower “yield” than traditional atomic bombs and are designed to be used against conventional forces in battle. But they still have enormous explosive power and are considered particularly destabilizing to deterrent strategy. The United States has reportedly been flying [dedicated spy missions](https://www.nytimes.com/2022/01/23/us/politics/biden-troops-nato-ukraine.html) over in recent weeks to determine if Russia has deployed any of its tactical nuclear weapons along the border with Ukraine. There’s also concern among Russian nuclear experts about the potential that the Ukraine crisis could escalate, according to former U.S. Ambassador Richard Burt, who negotiated arms control treaties with the Soviet Union. He told POLITICO he was on a conference call Wednesday with European and Russian security officials and experts who discussed just such a scenario. “People are worried about the possibility … through some process of escalation this somehow gets out of control — misreading, misunderstanding signals, or technical mistakes — [and] that nuclear weapons in one form or another could become a factor in this crisis,” he said. The situation is exacerbated by the growing number of U.S., NATO, and Russian military forces in close proximity, Burt said. “One thing I think is useful to remember is people are not just putting their forces on alert in and around Ukraine, but you’ve got nuclear-capable naval forces in the Black Sea and in the Mediterranean,” he said. “In the Baltic Sea there also has been an intensification of activity as well. You have a lot more aircraft flying overflights.” Russia has also been nuclear saber-rattling in recent days, threatening that if NATO doesn’t meet its demands for halting the alliance’s expansion east [it could deploy](https://www.nytimes.com/2022/01/16/world/europe/russia-ukraine-invasion.html) its tactical nuclear weapons closer to American borders. “What we should be worried about is their doctrine and their 4,000 non-strategic nuclear weapons,” the former official added. Another concern is that many of its military aircraft and missiles are also designed to carry both non-nuclear and nuclear weapons, a circumstance that could sow even more confusion during hostilities. “It is very difficult for the West to know, ‘that conventional or nuclear,’ until it’s used,” the former nuclear official said, citing in particular air defense systems. Nikolai Sokov, a former Russian Foreign Ministry official, said he considers the risk of a conflict over Ukraine spilling over into the nuclear arena as “extremely remote.” But even he says it's conceivable that one or both sides could dangerously miscalculate. For example, an accidental clash between Russian and NATO aircraft or warships, he said, “may trigger direct confrontation and then it could roll." For leading advocates of reducing nuclear arms, the Ukraine crisis highlights the hugely destabilizing role they play. “What are nuclear weapons doing for us?” asked Tom Collina, director of policy at the Ploughshares Fund. “We only kind of think about them when we get into these crises, where really all they become is a liability. “It’s hard to argue that nuclear weapons are adding to anybody’s security in this situation, but they seem to be the thing you can stumble into by mistake,” he added. Also looming over the crisis is Russia’s history of using cyber-attacks as a key element of its military strategy, which could potentially disrupt or confuse nuclear command and control systems. Chris Painter, a former top government cyber official, warned this week of the risk of a nuclear escalation caused by a cyber attack impacting nuclear forces. “We do know that Russia and other services are intent on intruding into U.S. systems,” [he told an event](https://www.nti.org/events/christopher-painter-on-from-cyber-attack-to-nuclear-war-avoiding-escalation-through-cooperation/) hosted by the nonprofit Nuclear Threat Initiative. “Obviously, nuclear command and control would be a target they’d want to go after and get a foothold in. This is a really dangerous thing … if those systems are seen to be unreliable … that does have a real effect on deterrence. It’s hugely escalatory.” Others have taken issue with American rhetoric that they see as sowing unnecessary confusion about what military options might be under consideration to prevent a Russian invasion of Ukraine. Repeated assertions that “all options are on the table” to punish Moscow should it reinvade Ukraine are seen as particularly troubling. “In the nuclear age, ‘all options on the table’ in a conflict involving nuclear powers could be understood to mean the potential use of nuclear weapons, even if that wasn’t the intention in this instance,” two leading arms control advocates [wrote last week.](https://www.justsecurity.org/79874/the-us-russia-crisis-over-ukraine-all-options-should-not-be-on-the-table/)

# 2

#### Build Back Better passes now – Biden remarks give it momentum

**Frazin 1/23** – Staff Writer for The Hill (Rachel, “ Biden comments add momentum to spending bill's climate measures,” *The Hill*, 1-23-22, <https://thehill.com/policy/healthcare/590871-biden-comments-add-momentum-to-spending-bills-climate-measures>)

President Biden’s remarks at a Wednesday press conference are giving momentum to the climate portions of his spending agenda as lawmakers call for Congress to pass the parts of the Build Back Better legislation that are achievable. Biden expressed confidence that lawmakers can pass **upward of $500 billion in energy and environmental spending** — a number close to the amount the White House proposed spending on climate and clean energy in October. And after months of negotiations, weary lawmakers are now pushing to get climate action across the finish line. “The climate and clean energy provisions in Build Back Better have been largely worked through and financed, so let’s start there and add any of the other important provisions to support working families that can meet the 50-vote threshold,” Sen. Ed Markey (D-Mass.) said in a statement. Markey is far from alone. Sen. Tina Smith (D-Minn.), who has been a vocal proponent of the legislation’s climate change measures, expressed a similar sentiment in an interview with The Hill. “We need to figure out what we have agreement on and we need to do that,” Smith said. “Based on where we have been and comments that Sen. Manchin has made about the climate provisions that we have been negotiating up until the end of last year, it seems like **those sections of the old Build Back Better bill should be in pretty good shape,**” she added. Manchin is the West Virginia Democrat who stopped the Build Back Better bill in its tracks when he announced his opposition in December. Democrats need all of their 50 caucus members to back the legislation for it to get to Biden’s desk. Manchin has **expressed support for the environmental provisions**, but moving ahead would mean cuts to other programs, including an expanded child tax credit, to win his vote. But Smith said it’s important to be practical and get as much as possible out of the negotiations. “I’m a progressive in the caucus but I’m also practical, and I think this is the practical, commonsense way of moving forward to accomplish the best that we can,” she said. Democrats in Congress have historically failed to move major climate change legislation forward and have suffered from high-profile failures like the Obama-era Waxman-Markey bill. Democrats have limited options for getting this type of spending across, give the budgetary rules that allow them to avoid a filibuster that would allow the GOP to block their measure. It’s unlikely that 10 Republicans would join Democrats on many of their climate provisions. The New York Times recently asked all 50 Republicans if they would support the climate provisions as a standalone and **none of them said that they would.** Senate Finance Committee Chairman Ron Wyden (D-Ore.) told reporters Thursday that he saw Biden’s latest remarks as **establishing a way forward** for some provisions like climate. “What the president did last night, and he and I talked about this a number of times, is he created a path for a handful of provisions where we've got a lot of strong support, and it starts with climate. It starts with health care,” he said. Biden, during his Wednesday press conference said, “I think we can break the package up,” “Get as much as we can now and fight for the rest later,” he added. The president also said that he believes Democrats can pass more than $500 billion in energy and environment spending, a figure close to the White House’s proposed $555 billion of climate and clean energy spending from October. Manchin earlier this month said that climate is an area “we probably can come to an agreement much easier than anything else” and **specifically touted clean energy tax credits.**

#### CA dreier ev from the previous shell – the plan makes BBB impossible

#### BBB climate provisions k2 methane emissions and leak detection

**Casten 1/21** - a member of the House of Representatives, representing the Sixth District of Illinois (Sean, “To Fully Mitigate Climate Change, We Need to Curb Methane Emissions,” *Scientific American*, 1-21-22, <https://www.scientificamerican.com/article/to-fully-mitigate-climate-change-we-need-to-curb-methane-emissions/>)

To Fully Mitigate Climate Change, We Need to Curb Methane Emissions It’s been more than two months since the House of Representatives passed the Build Back Better Act—a bill that would make desperately needed and decades-overdue strides toward the U.S. meeting its moral responsibility to combat the climate crisis. But instead of moving into a new year on the hope that would come with the Senate passing and President Biden signing this historic legislation into law, I’m terrified—and furious—that **we’re tripping at the finish line.** Ahead of COP26, the United Nations climate change conference in November, President Joe Biden committed the U.S. to reducing our greenhouse gas emissions by half by 2030. Having run for Congress on a climate platform after spending two decades combating climate change in the private sector, I know that reducing our greenhouse gas emissions is what’s right for our environment—and for our wallets. If we want to have a shot at meeting that goal, we must find a way to implement the provisions in the House version of the Build Back Better Act that science tells us will reduce emissions quickly, cheaply and most dramatically. One of the most critical and expedient moves we can make is to reduce methane emissions. Methane is a rapidly accelerating part of the climate problem. It is the primary component of natural gas, and it warms the planet more than 80 times as quickly as a comparable volume of atmospheric CO2 over a comparable amount of time. On the one hand, while burning natural gas produces about half the CO2 emissions as burning coal, methane leaking into the atmosphere **more than eliminates those environmental benefits.** Moreover, methane pollution, which is a primary component of ground-level ozone and emitted alongside toxic chemicals such as benzene, has been linked to heart disease, birth defects, asthma and other adverse health impacts. These affect frontline and fenceline communities, the majority of whom are people of color, the hardest. Eliminating those leaks is perhaps the biggest “bang for the buck” action we can take, and the Build Back Better legislation has built within it a program that pairs grants to natural gas companies to help monitor and reduce methane pollution at oil and gas operations with fines on companies who instead break the rules. The program ties into the Global Methane Pledge that President Biden created at COP26. More than 100 countries signed on to a 30 percent reduction of methane levels by 2030. Reducing methane pollution could also reduce adverse health for those in the immediate vicinity of polluters. To meet this goal, we can use existing technology to monitor for and prevent leaks at oil and gas drilling, production, and transmission sites, and prohibit routine venting and flaring of methane gas. This one set of actions would get us most of the way to that goal and is exactly why the Build Back Better Act is so critical. President Biden understands we have a golden opportunity at a critical moment. His administration has already taken a number of important executive actions to eliminate methane emissions at the source: on the same day he and climate envoy John Kerry announced the Global Methane Pledge, the Environmental Protection Agency and the Departments of the Interior and Transportation rolled out new or strengthened rules to tackle methane emissions from oil and gas operations, landfills, pipelines and agriculture. But we can’t get there on executive action alone. While eliminating methane emissions is essential to our fight against climate change building the leak monitoring system that Build Back Better currently calls for would create tens of thousands of jobs in the manufacturing and service sectors and spur hundreds of billions in economic growth.

**Methane emissions lock in irreversible warming**

**Howarth 14** [Robert Howarth, PhD, Director, Agriculture, Energy & Environment Program, Chair, International SCOPE Biofuels Program, David R. Atkinson Professor of Ecology and Environmental Biology – Cornell, “A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas,” Energy Science & Engineering, Volume 2, Issue 2, June, 2014]

The GWP of Methane While methane is far more **effective** as a greenhouse gas than carbon dioxide, methane has an atmospheric lifetime of only 12 years or so, while carbon dioxide has an effective influence on atmospheric chemistry for a century or longer [34]. The time frame over which we compare the two gases is therefore **critical**, with methane becoming relatively less important than carbon dioxide as the timescale increases. Of the major papers on methane and the GHG for conventional natural gas published before our analysis for shale gas, one modeled the relative radiative forcing by methane compared to carbon dioxide continuously over a 100-year time period following emission [2], and two used the global warming approach (GWP) which compares how much larger the integrated global warming from a given mass of methane is over a specified period of time compared to the same mass of carbon dioxide. Of the two that used the GWP approach, one showed both 20-year and 100-year GWP analyses [3] while another used only a 100-year GWP time frame [4]. Both used GWP values from the Intergovernmental Panel on Climate Change (IPCC) synthesis report from 1996 [35], the **most reliable estimates** at the time their papers were published. In subsequent reports from the IPCC in 2007 [36] and 2013 [34] and in a paper in Science by workers at the NASA Goddard Space Institute [37], these GWP values have been **substantially increased**, in part, to account for the **indirect effects** of methane on other **radiatively active substances** in the atmosphere such as ozone (Table 2). In Howarth et al. [8], we used the GWP approach and closely followed the work of Lelieveld and colleagues [3] in presenting both integrated 20 and 100 year periods, and in giving equal credence and interpretation to both timescales. We upgraded the approach by using the most recently published values for GWP at that time [37]. These more recent GWP values **increased** the relative warming of methane compared to carbon dioxide by 1.9-fold for the 20-year time period (GWP of 105 vs. 56) and by 1.6-fold for the 100-year time period (GWP of 33 vs. 21; Table 2). Our conclusion was that for the 20-year time period, **shale gas had a larger GHG than coal or oil** even at our low-end estimates for methane emission (Fig. 1); conventional gas also had a larger GHG than coal or oil at our mean or high-end methane emission estimates, but not at the very low-end range for methane emission (the best-case, low-emission scenario). At the 100-year timescale, the influence of methane was much diminished, yet at our high-end methane emissions, the GHG of both shale gas and conventional gas still exceeded that of coal and oil (Fig. 1). Of nine new reports on methane and natural gas published in 9 months after our April 2011 paper [8], six only considered the 100-year time frame for GWP, two used both a 20- and 100-year time frame, and one used a continuous modeling of radiative forcing over the 0–100 time period (Table 2). Of the six papers that only examined the 100-year time frame, all used the **lower GWP value of** 25 from the 2007 IPCC report rather than the higher value of 33 published by Shindell and colleagues in 2009 that we had used; this higher value better accounts for the indirect effects of methane on global warming. Many of these six papers implied that the IPCC dictated a focus on the 100-year time period, **which is simply not the case**: the IPCC report from 2007 [36] presented both 20- and 100-year GWP values for methane. And two of these six papers criticized our inclusion of the 20-year time period as inappropriate [14, 17]. I strongly disagree with this criticism. In the time since April 2011 I have come increasingly to believe that it is essential to consider the role of methane on timescales that are **much shorter than 100 years**, in part, due to **new science on methane** and global warming presented since then [34, 41, 42], briefly summarized below. The **most recent synthesis** report from the IPCC in 2013 on the physical science basis of global warming highlights the **role of methane** in global warming at **multiple timescales**, using GWP values for 10 years in addition to 20 and 100 years (GWP of 108, 86, and 34, respectively) in their analysis [34]. The report states that “there is no scientific argument for selecting 100 years compared with other choices,” and that “the choice of time horizon …. depends on the relative weight assigned to the effects at different times” [34]. The IPCC further concludes that at the 10-year timescale, the current global release of methane from all anthropogenic sources **exceeds** (slightly) **all anthropogenic carbon dioxide emissions** as agents of global warming; that is, **methane emissions are more important** (slightly) **than carbon dioxide** emissions for driving the **current rate** of global warming. At the 20-year timescale, total global emissions of methane are equivalent to over 80% of global carbon dioxide emissions. And at the 100-year timescale, current global methane emissions are equivalent to slightly less than 30% of carbon dioxide emissions [34] (Fig. 3). This difference in the time sensitivity of the climate system to methane and carbon dioxide **is critical**, and **not widely appreciated** by the policy community and even some climate scientists. While some note how the long-term momentum of the climate system is driven by carbon dioxide [15], the climate system is **far more immediately responsive** to changes in methane (and other short-lived radiatively active materials in the atmosphere, such as black carbon) [41]. The model published in 2012 by Shindell and colleagues [41] and adopted by the United Nations [42] predicts that unless emissions of methane and black carbon are reduced **immediately**, the Earth's average surface temperature will warm by 1.5°C by about 2030 and by 2.0°C by 2045 to 2050 **whether or not carbon dioxide emissions are reduced**. Reducing methane and black carbon emissions, even if carbon dioxide is not controlled, **would significantly slow the rate of global warming and postpone reaching the 1.5°C and 2.0°C marks by 15–20 years**. Controlling carbon dioxide as well as methane and black carbon emissions further slows the rate of global warming after 2045, through at least 2070 [41, 42] (Fig. 4). Why should we care about this warming over the next few decades? At temperatures of 1.5–2.0°C above the 1890–1910 baseline, the risk of a fundamental change in the Earth's climate system becomes **much greater** [41-43], possibly leading to **runaway feedbacks** and **even more global warming**. Such a result **would dwarf any possible benefit from reductions in carbon dioxide emissions** over the next few decades (e.g., switching from coal to natural gas, which does reduce carbon dioxide but also increases methane emissions). One of many mechanisms for such catastrophic change is the melting of methane clathrates in the oceans or melting of permafrost in the Arctic. Hansen and his colleagues [43, 44] have suggested that warming of the Earth by 1.8°C may trigger a large and rapid increase in the release of such methane. While there is a wide range in both the magnitude and timing of projected carbon release from thawing permafrost and melting clathrates in the literature [45], warming consistently leads to greater release. This release can in turn cause a feedback of accelerated global warming [46]. To state the converse of the argument: the influence of today's emissions on global warming 200 or 300 years into the future will largely reflect carbon dioxide, and not methane, unless the emissions of methane lead to tipping points and a fundamental change in the climate system. **And that could happen as early as within the next two to three decades.** An **increasing body of science** is developing **rapidly that emphasizes** the need to consider methane's influence over the decadal timescale, and the need to reduce methane emissions. Unfortunately, some recent guidance for life cycle assessments specify only the 100-year time frame [47, 48], and the EPA in 2014 still uses the GWP values from the IPCC 1996 assessment and only considers the 100-year time period when assessing methane emissions [49]. In doing so, they underestimate the global warming significance of methane by 1.6-fold compared to more recent values for the 100-year time frame and by four to fivefold compared to the 10- to 20-year time frames [34, 37].

#### Extinction

Sprat 19 [David Spratt is a Research Director for Breakthrough National Centre for Climate Restoration, Melbourne, and co-author of Climate Code Red: The case for emergency action, and Ian T. Dunlop is a member of the Club of Rome, formerly an international oil, gas and coal industry executive, chairman of the Australian Coal Association, chief executive of the Australian Institute of Company Directors, and chair of the Australian Greenhouse Office Experts Group on Emissions Trading, “Existential climate-related security risk: A scenario approach,” BT Policy Paper, September 5, May 2019-2020, <https://docs.wixstatic.com/ugd/148cb0_90dc2a2637f348edae45943a88da04d4.pdf>]

By 2050, there is broad scientific acceptance that system **tipping-points** for the West Antarctic Ice Sheet and a sea-ice-free Arctic summer were passed well before 1.5°Cof warming, for the Greenland Ice Sheet well before 2°C, and for widespread **permafrost loss and large-scale Amazon drought** and dieback by 2.5°C. The “hothouse Earth” scenario has been realised, and Earth is headed for another degree or more of warming, especially since human greenhouse emissions are still significant.20 While sea levels have risen 0.5 metres by 2050, the increase may be 2–3 metres by 2100, and it is understood from historical analogues that seas may eventually rise by more than 25 metres. Thirty-five percent of the global land area, and 55 percent of the **global population**, are **subject to** more than 20 days a year of **lethal heat conditions**, beyond the threshold of human survivability. The destabilisation of the Jet Stream has very significantly affected the intensity and geographical distribution of the Asian and West African monsoons and, together with the further slowing of the Gulf Stream, is impinging on life support systems in Europe. North America suffers from **devastating weather extremes** including wildfires, heatwaves, drought and inundation. The summer monsoons in China have failed, and water flows into the great rivers of Asia are severely reduced by the loss of more than one-third of the Himalayan ice sheet. **Glacial loss reaches 70 percent** in the Andes, and rainfall in Mexico and central America falls by half. Semi-permanent El Nino conditions prevail. Aridification emerges over more than 30 percent of the world’s land surface. **Desertification is severe** in southern Africa, the southern Mediterranean, west Asia, the Middle East, inland Australia and across the south-western United States. Impacts: **A number of ecosystems collapse**, including coral reef systems, the Amazon rainforest and in the Arctic. Some poorer nations and regions, which lack capacity to provide artificially-cooled environments for their populations, become unviable. **Deadly heat conditions persist** for more than 100 days per year in West Africa, tropical South America, the Middle East and South-East Asia, which together with land degradation21 and rising sea levels contributes to perhaps **a billion people being displaced.** Water availability decreases sharply in the most affected regions at lower latitudes (dry tropics and subtropics), affecting about two billion people worldwide. **Agriculture becomes nonviable** in the dry subtropics. Most regions in the world see a significant drop in food production and increasing numbers of extreme weather events, **including heat waves, floods and storms**. Food production is inadequate to feed the global population and **food prices skyrocket**, as a consequence of a one-fifth decline in crop yields, a decline in the nutrition content of food crops, a catastrophic decline in insect populations, desertification, monsoon failure and chronic water shortages, and conditions too hot for human habitation in significant food-growing regions. The lower reaches of the agriculturally-important river deltas such as the Mekong, Ganges and Nile are inundated, and significant sectors of some of the world’s most populous cities — including Chennai, Mumbai, Jakarta, Guangzhou, Tianjin, Hong Kong, Ho Chi Minh City, Shanghai, Lagos, Bangkok and Manila — are abandoned. Some small islands become uninhabitable. Ten percent of Bangladesh is inundated, displacing 15 million people. According to the Global Challenges Foundation’s Global Catastrophic Risks 2018 report, even for 2°C of warming, more than a billion people may need to be relocated due to sea-level rise, and In high-end scenarios “**the scale of destruction is beyond our capacity to model**, with a high likelihood of human civilisation coming to an end”.22 National security consequences: For pragmatic reasons associated with providing only a sketch of this scenario, we take the conclusion of the ​Age of Consequences ‘Severe’ 3°C scenario developed by a group of senior US national-security figures in 2007 as appropriate for our scenario too: Massive nonlinear events in the global environment give rise to ​massive nonlinear societal events​. In this scenario, nations around the world **will be ​overwhelmed** by the scale of change and pernicious challenges, **such as pandemic disease**. The **internal cohesion** of nations **will be under great stress**, including in the United States, both as a result of a dramatic rise in migration and changes in agricultural patterns and water availability. The **flooding** of coastal communities **around the world**, especially in the Netherlands, the United States, South Asia, and China, has the potential to challenge regional and even national identities.​ **Armed conflict between nations over resources**, such as the Nile and its tributaries, **is likely and nuclear war is possible**. The social consequences range from increased religious fervor to ​outright chaos​. In this scenario, climate change provokes ​a permanent shift in the relationship of humankind to nature​’.23 (emphasis added)

# 3

#### Bizcon high now but certainty is key and unpredictable shifts ruin it

Sarah Chaney Cambon 21, Reporter on The Wall Street Journal's Economics Team, BA in Business Journalism from the University of North Carolina-Chapel Hill, “Capital-Spending Surge Further Lifts Economic Recovery”, Wall Street Journal, 6/27/2021, https://www.wsj.com/articles/capital-spending-surge-further-lifts-economic-recovery-11624798800

Business investment is emerging as a powerful source of U.S. economic growth that will likely help sustain the recovery. Companies are ramping up orders for computers, machinery and software as they grow more confident in the outlook. Nonresidential fixed investment, a proxy for business spending, rose at a seasonally adjusted annual rate of 11.7% in the first quarter, led by growth in software and tech-equipment spending, according to the Commerce Department. Business investment also logged double-digit gains in the third and fourth quarters last year after falling during pandemic-related shutdowns. It is now higher than its pre-pandemic peak. Orders for nondefense capital goods excluding aircraft, another measure for business investment, are near the highest levels for records tracing back to the 1990s, separate Commerce Department figures show. “Business investment has really been an important engine powering the U.S. economic recovery,” said Robert Rosener, senior U.S. economist at Morgan Stanley. “In our outlook for the economy, it’s certainly one of the bright spots.” Consumer spending, which accounts for about two-thirds of economic output, is driving the early stages of the recovery. Americans, flush with savings and government stimulus checks, are spending more on goods and services, which they shunned for much of the pandemic. Robust capital investment will be key to ensuring that the recovery maintains strength after the spending boost from fiscal stimulus and business reopenings eventually fades, according to some economists. Rising business investment helps fuel economic output. It also lifts worker productivity, or output per hour. That metric grew at a sluggish pace throughout the last economic expansion but is now showing signs of resurgence. The recovery in business investment is shaping up to be much stronger than in the years following the 2007-09 recession. “The events especially in late ’08, early ’09 put a lot of businesses really close to the edge,” said Phil Suttle, founder of Suttle Economics. “I think a lot of them said, ‘We’ve just got to be really cautious for a long while.’” Businesses appear to be less risk-averse now, he said. After the financial crisis, businesses grew by adding workers, rather than investing in capital. Hiring was more attractive than capital spending because labor was abundant and relatively cheap. Now the supply of workers is tight. Companies are raising pay to lure employees. As a result, many firms have more incentive to grow by investing in capital. Economists at Morgan Stanley predict that U.S. capital spending will rise to 116% of prerecession levels after three years. By comparison, investment took 10 years to reach those levels once the 2007-09 recession hit. Company executives are increasingly confident in the economy’s trajectory. The Business Roundtable’s economic-outlook index—a composite of large companies’ plans for hiring and spending, as well as sales projections—increased by nine points in the second quarter to 116, just below 2018’s record high, according to a survey conducted between May 25 and June 9. In the second quarter, the share of companies planning to boost capital investment increased to 59% from 57% in the first. “We’re seeing really strong reopening demand, and a lot of times capital investment follows that,” said Joe Song, senior U.S. economist at BofA Securities. Mr. Song added that less uncertainty regarding trade tensions between the U.S. and China should further underpin business confidence and investment. “At the very least, businesses will understand the strategy that the Biden administration is trying to follow and will be able to plan around that,” he said.

#### The plan crushes an entire industry – wrecks business confidence and causes collapse – they explicitly crush spacex which is the biggest driver of the industry

Weinzierl and Sarang 21 - \* Joseph and Jacqueline Elbling Professor of Business Administration at HBS and a Research Associate at the NBER. His research and teaching focus on the design of economic policy and the economics and business of space, \*\*Research Associate at Harvard Business School and the Lunar Exploration Projects Lead for the MIT Space Exploration Initiative [Matt, Mehak, “The Commercial Space Age Is Here,” 2/12/2021, Harvard Business Review, <https://hbr.org/2021/02/the-commercial-space-age-is-here>]

There’s no shortage of hype surrounding the commercial space industry. But while tech leaders promise us moon bases and settlements on Mars, the space economy has thus far remained distinctly local — at least in a cosmic sense. Last year, however, we crossed an important threshold: For the first time in human history, humans accessed space via a vehicle built and owned not by any government, but by a private corporation with its sights set on affordable space settlement. It was the first significant step towards building an economy both in space and for space. The implications — for business, policy, and society at large — are hard to overstate. In 2019, 95% of the estimated $366 billion in revenue earned in the space sector was from the space-for-earth economy: that is, goods or services produced in space for use on earth. The space-for-earth economy includes telecommunications and internet infrastructure, earth observation capabilities, national security satellites, and more. This economy is booming, and though research shows that it faces the challenges of overcrowding and monopolization that tend to arise whenever companies compete for a scarce natural resource, projections for its future are optimistic. Decreasing costs for launch and space hardware in general have enticed new entrants into this market, and companies in a variety of industries have already begun leveraging satellite technology and access to space to drive innovation and efficiency in their earthbound products and services. In contrast, the space-for-space economy — that is, goods and services produced in space for use in space, such as mining the Moon or asteroids for material with which to construct in-space habitats or supply refueling depots — has struggled to get off the ground. As far back as the 1970s, research commissioned by NASA predicted the rise of a space-based economy that would supply the demands of hundreds, thousands, even millions of humans living in space, dwarfing the space-for-earth economy (and, eventually, the entire terrestrial economy as well). The realization of such a vision would change how all of us do business, live our lives, and govern our societies — but to date, we’ve never even had more than 13 people in space at one time, leaving that dream as little more than science fiction. Today, however, there is reason to think that we may finally be reaching the first stages of a true space-for-space economy. SpaceX’s recent achievements (in cooperation with NASA), as well as upcoming efforts by Boeing, Blue Origin, and Virgin Galactic to put people in space sustainably and at scale, mark the opening of a new chapter of spaceflight led by private firms. These firms have both the intention and capability to bring private citizens to space as passengers, tourists, and — eventually — settlers, opening the door for businesses to start meeting the demand those people create over the next several decades with an array of space-for-space goods and services.

#### Decline cascades---nuclear war

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Various scholars and institutions regard global social instability as the greatest threat facing this decade. The catalyst has been postulated to be a Second Great Depression which, in turn, will have profound implications for global security and national integrity. This paper, written from a broad systems perspective, illustrates how emerging risks are getting more complex and intertwined; blurring boundaries between the economic, environmental, geopolitical, societal and technological taxonomy used by the World Economic Forum for its annual global risk forecasts. Tight couplings in our global systems have also enabled risks accrued in one area to snowball into a full-blown crisis elsewhere. The COVID-19 pandemic and its socioeconomic fallouts exemplify this systemic chain-reaction. Onceinexorable forces of globalization are rupturing as the current global system can no longer be sustained due to poor governance and runaway wealth fractionation. The coronavirus pandemic is also enabling Big Tech to expropriate the levers of governments and mass communications worldwide. This paper concludes by highlighting how this development poses a dilemma for security professionals. Key Words: Global Systems, Emergence, VUCA, COVID-9, Social Instability, Big Tech, Great Reset INTRODUCTION The new decade is witnessing rising volatility across global systems. Pick any random “system” today and chart out its trajectory: Are our education systems becoming more robust and affordable? What about food security? Are our healthcare systems improving? Are our pension systems sound? Wherever one looks, there are dark clouds gathering on a global horizon marked by volatility, uncertainty, complexity and ambiguity (VUCA). But what exactly is a global system? Our planet itself is an autonomous and selfsustaining mega-system, marked by periodic cycles and elemental vagaries. Human activities within however are not system isolates as our banking, utility, farming, healthcare and retail sectors etc. are increasingly entwined. Risks accrued in one system may cascade into an unforeseen crisis within and/or without (Choo, Smith & McCusker, 2007). Scholars call this phenomenon “emergence”; one where the behaviour of intersecting systems is determined by complex and largely invisible interactions at the substratum (Goldstein, 1999; Holland, 1998). The ongoing COVID-19 pandemic is a case in point. While experts remain divided over the source and morphology of the virus, the contagion has ramified into a global health crisis and supply chain nightmare. It is also tilting the geopolitical balance. China is the largest exporter of intermediate products, and had generated nearly 20% of global imports in 2015 alone (Cousin, 2020). The pharmaceutical sector is particularly vulnerable. Nearly “85% of medicines in the U.S. strategic national stockpile” sources components from China (Owens, 2020). An initial run on respiratory masks has now been eclipsed by rowdy queues at supermarkets and the bankruptcy of small businesses. The entire global population – save for major pockets such as Sweden, Belarus, Taiwan and Japan – have been subjected to cyclical lockdowns and quarantines. Never before in history have humans faced such a systemic, borderless calamity. COVID-19 represents a classic emergent crisis that necessitates real-time response and adaptivity in a real-time world, particularly since the global Just-in-Time (JIT) production and delivery system serves as both an enabler and vector for transboundary risks. From a systems thinking perspective, emerging risk management should therefore address a whole spectrum of activity across the economic, environmental, geopolitical, societal and technological (EEGST) taxonomy. Every emerging threat can be slotted into this taxonomy – a reason why it is used by the World Economic Forum (WEF) for its annual global risk exercises (Maavak, 2019a). As traditional forces of globalization unravel, security professionals should take cognizance of emerging threats through a systems thinking approach. METHODOLOGY An EEGST sectional breakdown was adopted to illustrate a sampling of extreme risks facing the world for the 2020-2030 decade. The transcendental quality of emerging risks, as outlined on Figure 1, below, was primarily informed by the following pillars of systems thinking (Rickards, 2020): • Diminishing diversity (or increasing homogeneity) of actors in the global system (Boli & Thomas, 1997; Meyer, 2000; Young et al, 2006); • Interconnections in the global system (Homer-Dixon et al, 2015; Lee & Preston, 2012); • Interactions of actors, events and components in the global system (Buldyrev et al, 2010; Bashan et al, 2013; Homer-Dixon et al, 2015); and • Adaptive qualities in particular systems (Bodin & Norberg, 2005; Scheffer et al, 2012) Since scholastic material on this topic remains somewhat inchoate, this paper buttresses many of its contentions through secondary (i.e. news/institutional) sources. ECONOMY According to Professor Stanislaw Drozdz (2018) of the Polish Academy of Sciences, “a global financial crash of a previously unprecedented scale is highly probable” by the mid- 2020s. This will lead to a trickle-down meltdown, impacting all areas of human activity. The economist John Mauldin (2018) similarly warns that the “2020s might be the worst decade in US history” and may lead to a Second Great Depression. Other forecasts are equally alarming. According to the International Institute of Finance, global debt may have surpassed $255 trillion by 2020 (IIF, 2019). Yet another study revealed that global debts and liabilities amounted to a staggering $2.5 quadrillion (Ausman, 2018). The reader should note that these figures were tabulated before the COVID-19 outbreak. The IMF singles out widening income inequality as the trigger for the next Great Depression (Georgieva, 2020). The wealthiest 1% now own more than twice as much wealth as 6.9 billion people (Coffey et al, 2020) and this chasm is widening with each passing month. COVID-19 had, in fact, boosted global billionaire wealth to an unprecedented $10.2 trillion by July 2020 (UBS-PWC, 2020). Global GDP, worth $88 trillion in 2019, may have contracted by 5.2% in 2020 (World Bank, 2020). As the Greek historian Plutarch warned in the 1st century AD: “An imbalance between rich and poor is the oldest and most fatal ailment of all republics” (Mauldin, 2014). The stability of a society, as Aristotle argued even earlier, depends on a robust middle element or middle class. At the rate the global middle class is facing catastrophic debt and unemployment levels, widespread social disaffection may morph into outright anarchy (Maavak, 2012; DCDC, 2007). Economic stressors, in transcendent VUCA fashion, may also induce radical geopolitical realignments. Bullions now carry more weight than NATO’s security guarantees in Eastern Europe. After Poland repatriated 100 tons of gold from the Bank of England in 2019, Slovakia, Serbia and Hungary quickly followed suit. According to former Slovak Premier Robert Fico, this erosion in regional trust was based on historical precedents – in particular the 1938 Munich Agreement which ceded Czechoslovakia’s Sudetenland to Nazi Germany. As Fico reiterated (Dudik & Tomek, 2019): “You can hardly trust even the closest allies after the Munich Agreement… I guarantee that if something happens, we won’t see a single gram of this (offshore-held) gold. Let’s do it (repatriation) as quickly as possible.” (Parenthesis added by author). President Aleksandar Vucic of Serbia (a non-NATO nation) justified his central bank’s gold-repatriation program by hinting at economic headwinds ahead: “We see in which direction the crisis in the world is moving” (Dudik & Tomek, 2019). Indeed, with two global Titanics – the United States and China – set on a collision course with a quadrillions-denominated iceberg in the middle, and a viral outbreak on its tip, the seismic ripples will be felt far, wide and for a considerable period. A reality check is nonetheless needed here: Can additional bullions realistically circumvallate the economies of 80 million plus peoples in these Eastern European nations, worth a collective $1.8 trillion by purchasing power parity? Gold however is a potent psychological symbol as it represents national sovereignty and economic reassurance in a potentially hyperinflationary world. The portents are clear: The current global economic system will be weakened by rising nationalism and autarkic demands. Much uncertainty remains ahead. Mauldin (2018) proposes the introduction of Old Testament-style debt jubilees to facilitate gradual national recoveries. The World Economic Forum, on the other hand, has long proposed a “Great Reset” by 2030; a socialist utopia where “you’ll own nothing and you’ll be happy” (WEF, 2016). In the final analysis, COVID-19 is not the root cause of the current global economic turmoil; it is merely an accelerant to a burning house of cards that was left smouldering since the 2008 Great Recession (Maavak, 2020a). We also see how the four main pillars of systems thinking (diversity, interconnectivity, interactivity and “adaptivity”) form the mise en scene in a VUCA decade. ENVIRONMENTAL What happens to the environment when our economies implode? Think of a debt-laden workforce at sensitive nuclear and chemical plants, along with a concomitant surge in industrial accidents? Economic stressors, workforce demoralization and rampant profiteering – rather than manmade climate change – arguably pose the biggest threats to the environment. In a WEF report, Buehler et al (2017) made the following pre-COVID-19 observation: The ILO estimates that the annual cost to the global economy from accidents and work-related diseases alone is a staggering $3 trillion. Moreover, a recent report suggests the world’s 3.2 billion workers are increasingly unwell, with the vast majority facing significant economic insecurity: 77% work in part-time, temporary, “vulnerable” or unpaid jobs. Shouldn’t this phenomenon be better categorized as a societal or economic risk rather than an environmental one? In line with the systems thinking approach, however, global risks can no longer be boxed into a taxonomical silo. Frazzled workforces may precipitate another Bhopal (1984), Chernobyl (1986), Deepwater Horizon (2010) or Flint water crisis (2014). These disasters were notably not the result of manmade climate change. Neither was the Fukushima nuclear disaster (2011) nor the Indian Ocean tsunami (2004). Indeed, the combustion of a long-overlooked cargo of 2,750 tonnes of ammonium nitrate had nearly levelled the city of Beirut, Lebanon, on Aug 4 2020. The explosion left 204 dead; 7,500 injured; US$15 billion in property damages; and an estimated 300,000 people homeless (Urbina, 2020). The environmental costs have yet to be adequately tabulated. Environmental disasters are more attributable to Black Swan events, systems breakdowns and corporate greed rather than to mundane human activity. Our JIT world aggravates the cascading potential of risks (Korowicz, 2012). Production and delivery delays, caused by the COVID-19 outbreak, will eventually require industrial overcompensation. This will further stress senior executives, workers, machines and a variety of computerized systems. The trickle-down effects will likely include substandard products, contaminated food and a general lowering in health and safety standards (Maavak, 2019a). Unpaid or demoralized sanitation workers may also resort to indiscriminate waste dumping. Many cities across the United States (and elsewhere in the world) are no longer recycling wastes due to prohibitive costs in the global corona-economy (Liacko, 2021). Even in good times, strict protocols on waste disposals were routinely ignored. While Sweden championed the global climate change narrative, its clothing flagship H&M was busy covering up toxic effluences disgorged by vendors along the Citarum River in Java, Indonesia. As a result, countless children among 14 million Indonesians straddling the “world’s most polluted river” began to suffer from dermatitis, intestinal problems, developmental disorders, renal failure, chronic bronchitis and cancer (DW, 2020). It is also in cauldrons like the Citarum River where pathogens may mutate with emergent ramifications. On an equally alarming note, depressed economic conditions have traditionally provided a waste disposal boon for organized crime elements. Throughout 1980s, the Calabriabased ‘Ndrangheta mafia – in collusion with governments in Europe and North America – began to dump radioactive wastes along the coast of Somalia. Reeling from pollution and revenue loss, Somali fisherman eventually resorted to mass piracy (Knaup, 2008). The coast of Somalia is now a maritime hotspot, and exemplifies an entwined form of economic-environmental-geopolitical-societal emergence. In a VUCA world, indiscriminate waste dumping can unexpectedly morph into a Black Hawk Down incident. The laws of unintended consequences are governed by actors, interconnections, interactions and adaptations in a system under study – as outlined in the methodology section. Environmentally-devastating industrial sabotages – whether by disgruntled workers, industrial competitors, ideological maniacs or terrorist groups – cannot be discounted in a VUCA world. Immiserated societies, in stark defiance of climate change diktats, may resort to dirty coal plants and wood stoves for survival. Interlinked ecosystems, particularly water resources, may be hijacked by nationalist sentiments. The environmental fallouts of critical infrastructure (CI) breakdowns loom like a Sword of Damocles over this decade. GEOPOLITICAL The primary catalyst behind WWII was the Great Depression. Since history often repeats itself, expect familiar bogeymen to reappear in societies roiling with impoverishment and ideological clefts. Anti-Semitism – a societal risk on its own – may reach alarming proportions in the West (Reuters, 2019), possibly forcing Israel to undertake reprisal operations inside allied nations. If that happens, how will affected nations react? Will security resources be reallocated to protect certain minorities (or the Top 1%) while larger segments of society are exposed to restive forces? Balloon effects like these present a classic VUCA problematic. Contemporary geopolitical risks include a possible Iran-Israel war; US-China military confrontation over Taiwan or the South China Sea; North Korean proliferation of nuclear and missile technologies; an India-Pakistan nuclear war; an Iranian closure of the Straits of Hormuz; fundamentalist-driven implosion in the Islamic world; or a nuclear confrontation between NATO and Russia. Fears that the Jan 3 2020 assassination of Iranian Maj. Gen. Qasem Soleimani might lead to WWIII were grossly overblown. From a systems perspective, the killing of Soleimani did not fundamentally change the actor-interconnection-interaction adaptivity equation in the Middle East. Soleimani was simply a cog who got replaced.

# Case

#### Top level – their ev concedes colonies would survive every one of their scenarios which means they don’t get extinction, and they’ve said extinction categorically outweighs

#### It’s a doublebind – either mars col is unsuccessful which doesn’t trigger their impacts or it is in which case it solves extinction

## Terrestrial Warfare

#### This Morton ev is atrocious you should read it after the round

#### This card is literally just their author saying an ethnic war or genocide might occur – no warrants for why its likely – he just imagines the scenario and then says itll happen

#### The scenario doesn’t make sense anyway – their link to mars col is that building a mars colony would indicate that youre gearing up to survive a nuclear war, BUT their scenario is like ethnic wars and those arent on complex military logic but rather just racism

#### Even if you don’t buy that they don’t have a flashpoint and they cant explain how much more likely it makes war, so this scenario is fundamentally incomplete

## Nanobots

#### Their ev is about why space isn’t an escape from nanobots, not why mars col makes it uniquely likely – their ev (harker is blue)

1ac Morton 18 [(Adam, a retired philosopher attached to the University of British Columbia. He is a philosophical generalist with a particular interest in issues about knowledge and about how people understand one another. His book Should We Colonize Other Planets?​ is available now.) “Colonizing Other Planets Could Trigger War on Earth | Opinion” News Week, 11/22/2018. https://www.newsweek.com/colonizing-other-planets-could-trigger-war-earth-and-ecological-disaster-1226630] BC

Another danger is the rise of smart robots. But again, there is no escape in space. Space travel and running a colony use as much computation as they can get. This was true of the moon landings and it is even truer now. Human beings have an essential role in plans and design, but on the trip itself they are mostly just going along for the ride. So, imagine, just for the sake of argument, that hyper-calculating artificial intelligences are in a position to threaten human civilization. The extension of that civilization on another planet relies even more on those very powers, which will have to be networked to earthly computation. If mere humans can hack into machinery in targeted countries to disrupt them, then these super-capable but malevolent AIs will have no problem. Whatever their "motives," these will be the same elsewhere as on earth, and space is less of an obstacle to the flow of (mis)information and commands than to the flow of people and physical objects. No safety there.

#### Their link ev is about ai for computing not weapons so they dotn get the nanobot war impact

#### Nanotech impossible--fat and sticky fingers

Smalley in 2001 [Richard – Gene and Norman Hackerman Professor of Physics and Chemistry @ Rice University, received the 1996 Nobel Prize in Chemistry for the discovery of fullerenes – September, “Nanofallacies: of Chemistry, Love, and Nanobots,” Scientific American, Vol. 285 #3]

But how realistic is this notion of a self-replicating nanobot? Let's think about it. Atoms are tiny and move in a defined and circumscribed way--a chemist would say that they move so as to minimize the free energy of their local surroundings. The electronic "glue" that sticks them to one another is not local to each bond but rather is sensitive to the exact position and identity of all the atoms in the near vicinity. So when the nanomanipulator arm of our nanobot picks up an atom and goes to insert it in the desired place, it has a fundamental problem. It also has to somehow control not only this new atom but all the existing atoms in the region. No problem, you say: our nanobot will have an additional manipulator arm for each one of these atoms. Then it would have complete control of all the goings-on that occur at the reaction site. But remember, this region where the chemistry is to be controlled by the nanobot is very, very small--about one nanometer on a side. That constraint leads to at least two basic difficulties. I call one the fat fingers problem and the other the sticky fingers problem. Because the fingers of a manipulator arm must themselves be made out of atoms, they have a certain irreducible size. There just isn't enough room in the nanometer-size reaction region to accomodate all the fingers of all the manipulators necessary to have complete control of the chemistry. In a famous 1959 talk that has inspired nanotechnologists everywhere, Nobel physicist Richard Feynman memorably noted, "There's plenty of room at the bottom." But there's not that much room. Manipulator fingers on the hypothetical self-replicating nanobot are not only too fat; they are also too sticky: the atoms of the manipulator hands will adhere to the atom that is being moved. So it will often be impossible to release this minuscule building block in precisely the right spot. Both these problems are fundamental, and neither can be avoided. Selfreplicating, mechanical nanobots are simply not possible in our world. To put every atom in its place--the vision articulated by some nanotechnologists-would require magic fingers. Such a nanobot will never become more than a futurist's daydream.

## Warming

#### The warrant is rocket launch destroys the atmosphere but they cant solve because we still use rockets for other things

#### Warming doesn’t trigger extinction

* peer-reviewed journal shows IPCC exaggeration
* history proves resilience
* no extinction- warming under Paris goals
* rock breaking strategy could offset warming

IBD 18 [Investors Business Daily, Citing Study from Peer reviewed journal by Lewis and Curry, “Here's One Global Warming Study Nobody Wants You To See”, 4/25/18, https://www.investors.com/politics/editorials/global-warming-computer-models-co2-emissions/]

Settled Science: A new study published in a peer-reviewed journal finds that climate models exaggerate the global warming from CO2 emissions by as much as 45%. If these findings hold true, it's huge news. No wonder the mainstream press is ignoring it. In the study, authors Nic Lewis and Judith Curry looked at actual temperature records and compared them with climate change computer models. What they found is that the planet has shown itself to be far less sensitive to increases in CO2 than the climate models say. As a result, they say, the planet will warm less than the models predict, even if we continue pumping CO2 into the atmosphere. As Lewis explains: "Our results imply that, for any future emissions scenario, future warming is likely to be substantially lower than the central computer model-simulated level projected by the (United Nations Intergovernmental Panel on Climate Change), and highly unlikely to exceed that level. How much lower? Lewis and Curry say that their findings show temperature increases will be 30%-45% lower than the climate models say. If they are right, then there's little to worry about, even if we don't drastically reduce CO2 emissions. The planet will warm from human activity, but not nearly enough to cause the sort of end-of-the-world calamities we keep hearing about. In fact, the resulting warming would be below the target set at the Paris agreement. This would be tremendously good news. The fact that the Lewis and Curry study appears in the peer-reviewed American Meteorological Society's Journal of Climate lends credibility to their findings. This is the same journal, after all, that recently published widely covered studies saying the Sahara has been growing and the climate boundary in central U.S. has shifted 140 miles to the east because of global warming. The Lewis and Curry findings come after another study, published in the prestigious journal Nature, that found the long-held view that a doubling of CO2 would boost global temperatures as much as 4.5 degrees Celsius was wrong**.** The most temperatures would likely climb is 3.4 degrees. It also follows a study published in Science, which found that rocks contain vast amounts of nitrogen that plants could use to grow and absorb more CO2, potentially offsetting at least some of the effects of CO2 emissions and reducing future temperature increases.

#### Warming bad is political hype with unobserved impacts—stopping CO2 emissions would abruptly stop crucial habitat and agricultural production key to food security.

Goklany 15. (Dr. Indur M. Goklany, PhD MSU, is a science and technology policy analyst for the United States Department of the Interior, where he holds the position of Assistant Director of Programs, Science and Technology Policy. CARBON DIOXIDE The good news. <http://www.thegwpf.org/content/uploads/2015/10/benefits.pdf>)

Summary 1. This paper addresses the question of whether, and how much, increased carbon dioxide concentrations have benefited the biosphere and humanity by stimulating plant growth, warming the planet and increasing rainfall. 2. Empirical data confirms that the biosphere’s productivity has increased by about 14% since 1982, in large part as a result of rising carbon dioxide levels. 3. Thousands of scientific experiments indicate that increasing carbon dioxide concentrations in the air have contributed to increases in crop yields. 4. These increases in yield are very likely to have reduced the appropriation of land for farming by 11–17% compared with what it would otherwise be, resulting in more land being left wild. 5. Satellite evidence confirms that increasing carbon dioxide concentrations have also resulted in greater productivity of wild terrestrial ecosystems in all vegetation types. 6. Increasing carbon dioxide concentrations have also increased the productivity of many marine ecosystems. 7. In recent decades, trends in climate-sensitive indicators of human and environmental wellbeing have improved and continue to do so despite claims that they would deteriorate because of global warming. 8. Compared with the benefits from carbon dioxide on crop and biosphere productivity, the adverse impacts of carbon dioxide – on the frequency and intensity of extreme weather, on sea level, vector-borne disease prevalence and human health – have been too small to measure or have been swamped by other factors. 9. Models used to influence policy on climate change have overestimated the rate of warming, underestimated direct benefits of carbon dioxide

, overestimated the harms from climate change and underestimated human capacity to adapt so as to capture the benefits while reducing the harms. 10. It is very likely that the impact of rising carbon dioxide concentrations is currently net beneficial for both humanity and the biosphere generally. These benefits are real, whereas the costs of warming are uncertain. Halting the increase in carbon dioxide concentrations abruptly would deprive people and the planet of the benefits of carbon dioxide much sooner than they would reduce any costs of warming.

#### Food shortages are coming and cause extinction.

FDI 12, Future Directions International, a Research institute providing strategic analysis of Australia’s global interests; citing Lindsay Falvery, PhD in Agricultural Science and former Professor at the University of Melbourne’s Institute of Land and Environment, “Food and Water Insecurity: International Conflict Triggers & Potential Conflict Points,” <http://www.futuredirections.org.au/workshop-papers/537-international-conflict-triggers-and-potential-conflict-points-resulting-from-food-and-water-insecurity.html>

**There is a growing appreciation that** the **conflicts in the next century will most likely be fought over a lack of resources.**¶Yet, in a sense, **this is not new. Researchers point to the French and Russian revolutions as** conflicts **induced by a lack of food.** More recently, **Germany’s World War Two efforts are said to have been inspired**, at least in part, **by its perceived need to gain access to more food.** Yet the general sense among those that attended FDI’s recent workshops, was that **the scale of the problem in the future could be significantly greater** as a result of population pressures, changing weather, urbanisation, migration, loss of arable land a

nd other farm inputs, and increased affluence in the developing world.¶ In his book, Small Farmers Secure Food, **Lindsay Falvey**, a participant in FDI’s March 2012 workshop on the issue of food and conflict, clearly **expresses the problem** and why countries across the globe are starting to take note. .¶ He writes (p.36), “…**if people are hungry**, especially in cities, **the state is not** stable – riots, violence, breakdown of law and order and migration result.”¶ “Hunger feeds anarchy.”¶ This view is also shared by **Julian Cribb**, who in his book, The Coming Famine, **writes that if “large regions of the world run short of food**, land or water in the decades that lie ahead, then **wholesale, bloody wars are liable to follow.”** ¶He continues: “**An increasingly credible scenario for World War 3 is** not so much a confrontation of super powers and their allies, as **a festering, self-perpetuating chain of resource conflicts**.” He also says: “The wars of the 21st Century are less likely to be global conflicts with sharply defined sides and huge armies, than a scrappy mass of failed states, rebellions, civil strife, insurgencies, terrorism and genocides, sparked by bloody competition over dwindling resources.”¶ As another workshop participant put it, people do not go to war to kill; they go to war over resources, either to protect or to gain the resources for themselves.¶ Another observed that hunger results in passivity not conflict. Conflict is over resources, not because people are going hungry.¶ **A study by the** International **P**eace **R**esearch **I**nstitute **indicates that where food security is an issue, it is more likely to result in some form of conflict. Darfur, Rwanda, Eritrea and the Balkans experienced such wars**. Governments, especially in developed countries, are increasingly aware of this phenomenon.¶ **The UK Ministry of Defence, the CIA, the** US **C**enter for **S**trategic and **I**nternational **S**tudies **and the Oslo Peace Research Institute, all identify famine as a potential trigger for** conflicts and possibly even **nuclear war**

## Space War

### No Space War

#### All of their cards say militarization occurs but none give an internal link to space war breaking out

#### No space war – it’s hype and systems are redundant

Johnson-Freese and Hitchens 16 [Dr. Joan Johnson-Freese is a member of the Breaking Defense Board of Contributors, a Professor of National Security Affairs at the Naval War College and author of Space Warfare in the 21st Century: Arming the Heavens. Views expressed are those of the author alone. Theresa Hitchens is a Senior Research Scholar at the Center for International and Security Studies at Maryland (CISSM), and the former Director of the United Nations Institute for Disarmament Research (UNIDIR) in Geneva, Switzerland. Stop The Fearmongering Over War In Space: The Sky’s Not Falling, Part 1. December 27, 2016. https://breakingdefense.com/2016/12/stop-the-fearmongering-over-war-in-space-the-skys-not-falling-part-1/]

In the last two years, we’ve seen rising hysteria over a future war in space. Fanning the flames are not only dire assessments from the US military, but also breathless coverage from a cooperative and credulous press. This reporting doesn’t only muddy public debate over whether we really need expensive systems. It could also become a self-fulfilling prophecy. The irony is that nothing makes the currently slim possibility of war in space more likely than fearmongering over the threat of war in space. Two television programs in the past two years show how egregious this fearmongering can get. In April 2015, the CBS show 60 Minutes ran a segment called “The Battle Above.” In an interview with General John Hyten, the then-chief of U.S. Air Force Space Command, it came across loud and clear that the United States was being forced to prepare for a battle in space — specifically against China — that it really didn’t want. It was explained by Hyten and other guests that China is building a considerable amount of hardware and accumulating significant know-how regarding space, all threatening to space assets Americans depend on every day. If viewers weren’t frightened after watching the segment, it wasn’t for lack of trying on the part of CBS. Using terms like “offensive counterspace” as a 1984 NewSpeak euphemism for “weapons,” it was made clear that the United States had no choice but to spend billions of dollars on offensive counterspace technology to not just thwart the Chinese threat, but control and dominate space. While it didn’t actually distort facts — just omit facts about current U.S. space capabilities — the segment was basically a cost-free commercial for the military-industrial complex. In retrospect though, “The Battle Above” was pretty good compared to CNN’s recent special, War in Space: The Next Battlefield. The latter might as well have been called Sharknado in Space – because the only far-out weapons technology our potential adversaries don’t have, according to the broadcast, seems to be “sharks with frickin’ laser beams attached to their heads!” First, CNN needs to hire some fact checkers. Saying “unlike its adversaries, the U.S. has not yet weaponized space” is deeply misleading, like saying “unlike his political opponents, President-Elect Donald Trump has not sprouted wings and flown away”: A few (admittedly alarming) weapons tests aside, no country in the world has yet weaponized space. Contrary to CNN, stock market transactions are not timed nor synchronized through GPS, but a closed system. Cruise missiles can find their targets even without GPS, because they have both GPS and precision inertial measurement units onboard, and IMUs don’t rely on satellite data. Oh, and the British rock group Pink Floyd holds the only claim to the Dark Side of the Moon: There is a “far side” of the Moon — the side always turned away from the Earth — but not a “dark side” — which would be a side always turned away from the Sun. More nefariously, the segment sensationalized nuggets of truth within a barrage of half-truths, backed by a heavy bass, dramatic soundtrack (and gravelly-voiced reporter Jim Sciutto) and accompanied by sexy and scary visuals. Make no mistake there are dangers in space, and the United States has the most to lose if space assets are lost. The question is how best to protect them. Here are a few facts CNN omitted. The Reality The U.S. has all of the technologies described on the CNN segment and deemed potentially offensive: maneuverable satellites, nano-satellites, lasers, jamming capabilities, robotic arms, ballistic missiles that can be used as anti-satellite weapons, etc. In fact, the United States is more technologically advanced than other countries in both military and commercial space. That technological superiority scares other countries; just as the U.S. military space community is scared of other countries obtaining those technologies in the future. The U.S. military space budget is more than 10 times greater than that of all the countries in the world combined. That also causes other countries concern. More unsettling still, the United States has long been leery of treaty-based efforts to constrain a potential arms race in outer space, as supported by nearly every other country in the world for decades. Indeed, under the administration of George W. Bush, the U.S. talking points centered on the mantra “there is no arms race in outer space,” so there is no need for diplomat instruments to constrain one. Now, a decade later, the U.S. military – backed by the Intelligence Community which operates the nation’s spy satellites – seems to be shouting to the rooftops that the United States is in danger of losing the space arms race already begun by its potential adversaries. The underlying assumption — a convenient one for advocates of more military spending — is that now there is nothing that diplomacy can do. However, it must be remembered that most space-related technologies – with the exception of ballistic missiles and dedicated jammers – have both military and civil/commercial uses; both benign — indeed, helpful — and nefarious uses. For example, giving satellites the ability to maneuver on orbit can allow useful inspections of ailing satellites and possibly even repairs. Further, the United States is not unable to protect its satellites, as repeated during the CNN broadcast by various interviewees and the host. Many U.S. government-owned satellites, including precious spy satellites, have capabilities to maneuver.

Many are hardened against electro-magnetic pulse, sport “shutters” to protect optical “eyes” from solar flares and lasers, and use radio frequency hopping to resist jamming. Offensive weapons, deployed on the ground to attack satellites, or in space, are not a silver bullet. To the contrary, U.S. deployment of such weapons may actually be detrimental to U.S. and international security in space (as we argued in a recent Atlantic Council publication, Towards a New National Security Space Strategy). Further, there are benefits to efforts started by the Obama Administration to find diplomatic tools to restrain and constrain dangerous military activities in space. These diplomatic efforts, however, would be undercut by a full-out U.S. pursuit of “space dominance.” This includes dialogue with China, the lack of which Gen. William Shelton, retired commander of Air Force Space Command, lamented in the CNN report. Given CNN’s “cast,” the spin was not surprising. Starting with Ghost Fleet author Peter Singer set the sensationalist tone, which never altered. The apocalyptic opening, inspired by Ghost Fleet, posited a scenario where all U.S. satellites are taken off-line in nearly one fell swoop. Unless we are talking about an alien invasion, that scenario is nigh on impossible. No potential adversary has such capabilities, nor will they ever likely do so. There is just too much redundancy in the system.