



Global Foresight 2022

About the Atlantic Council's Global Strategy papers

The Atlantic Council Strategy Papers series is the Atlantic Council's flagship outlet for publishing high-level, strategic thinking. The papers are authored by leading authorities, including a range of established and emerging strategic thinkers from within and outside the Atlantic Council.

In October 2019, the Atlantic Council published *Present at the Re-Creation: A Global Strategy for Revitalizing, Adapting, and Defending a Rules-Based International System*. This bold paper proposed a comprehensive strategy for rebuilding and strengthening a rules-based order for the current era. In July 2020, the Council published *A Global Strategy for Shaping the Post-COVID-19 World*, outlining a plan for leading states to recover from the health and economic crisis, and also to seize the crisis as an opportunity to build back better and rejuvenate the global system.

To build upon these far-reaching strategies, the Atlantic Council publishes an annual Global Strategy paper in the Atlantic Council Strategy Papers series. The annual Global Strategy provides recommendations for how the United States and its allies and partners can strengthen the global order, with an eye toward revitalizing, adapting, and defending a rules-based international system. A good strategy is enduring, and the authors expect that many elements of these Global Strategy papers will be constant over the years. At the same time, the world is changing rapidly (perhaps faster than ever before), and these papers take into account the new challenges and opportunities presented by changing circumstances.

The inaugural Global Strategy was *Global Strategy 2021: An Allied Strategy for China*. The Atlantic Council now presents the second-annual report: *Global Strategy 2022: Thwarting Kremlin aggression today for constructive relations tomorrow*. While the strategy has been in the works for some time, it is published as the Kremlin threatens to turn its long-running war in Ukraine into the largest European conflict since the Second World War. It imbues this strategy with an essential timeliness, with recommendations to counter the Kremlin's threats in the short term while planning for how to manage relations with Russia in the long term. This kind of foresight is at the heart of the Global Strategy series.

Developing a good strategy begins with the end in mind. As General Scowcroft said, a strategy is a statement of one's goals and a story about how to achieve them. The primary end of all Global Strategy papers will be a strengthened global system that provides likeminded allies and partners with continued peace, prosperity, and freedom.

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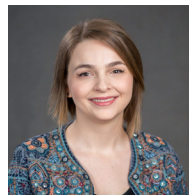
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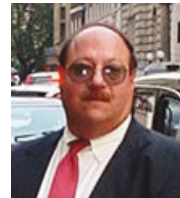
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From 1997 to 2001, he was director of Asian studies and a senior fellow at the Council on Foreign Relations (CFR). He led several CFR task forces, including the Korea Task Force and the Southeast Asia Task Force among others. Manning was previously an adviser for policy and public diplomacy to the assistant secretary of State for East Asian and Pacific affairs at the State Department and served as an adviser to the Office of the Secretary of Defense from 1988 to 1989.

His publications include *The Asian Energy Factor* (Palgrave/St. Martins 2000) and *China, Nuclear Weapons and Arms Control*. He has published essays on nuclear weapons; numerous journal articles on international energy and Asian security issues; and roughly half a dozen book chapters in edited volumes on China, Korea, Japan, regional security architecture, energy, and energy security. He has published widely in *Foreign Affairs*, *Foreign Policy*, the *National Interest*, the *New York Times*, the *Washington Post*, the *Los Angeles Times*, *Chosun Ilbo*, and other publications.



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Introduction

By Peter Engelke

Global Foresight 2022 is the inaugural edition of an annual series produced by the Atlantic Council's Scowcroft Center for Strategy and Security. For a decade, the Scowcroft Center has housed one of the world's premier strategic foresight shops. Led by Mathew Burrows, the Scowcroft Center has produced dozens of thoroughly researched and strategically insightful analyses of the world's most important subjects. These analyses have shaped the thinking of government officials and policymakers, business and civil society leaders, journalists, philanthropists, academics, and ordinary people around the world.

Global Foresight 2022 follows in this tradition. Its goal is to provide a provocative, well researched, highly analytical, yet digestible take on the trends and uncertainties that are shaping our world, and to forecast what might happen in the coming year and beyond. Released as a digital-only product in December 2021, this document is a more formal version of that initial assessment. As an Atlantic Council strategy paper, *Global Foresight 2022* is part of a longstanding series of deep, intellectually robust assessments of how the United States and its allies and partners should navigate the world in the coming years.

This inaugural edition of *Global Foresight 2022* contains three major components authored by myself and colleagues from within the Scowcroft Center. The first, penned by Burrows and Anca Agachi, outlines ten trends that are transforming the world now and into the future. These trends range from technological disruption to climate change to global power shifts and more. It also sketches three scenarios for how the world might unfold in the future, for better and for worse. The second piece, by Burrows and Robert A. Manning, identifies twelve of the top risks and opportunities for 2022. Top risks include the emergence of new and more lethal COVID-19 variants, an Afghanistan collapse, a rising number of fragile states around the

world, and the ongoing erosion of American democracy. The top opportunities range from closer US and European Union technology policy alignment to a thaw in US-China relations to the major powers cooperating in outer space. The third piece, which I authored, identifies six "snow leopards," a list of under-the-radar phenomena that might have unexpected yet critically important impacts, again for better or worse, in 2022 and beyond. These phenomena include cities as climate leaders, the commercial dawn of lab-based meat, and the spread of tech-based innovation to the far corners of the world.

In every case, the essays contained in this document span thematic and geographic boundaries. Making sense of the complex world we live in necessitates approaching topics through a lens that deemphasizes overly specialized interpretation of events and trends while emphasizing the interconnections across and among diverse phenomena. This approach is a hallmark component of strategic foresight thinking and methodology.

We hope that the reader finds much stimulation and useful insights in this inaugural edition of the *Global Foresight* series.

Dr. Peter Engelke

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Global Foresight 2022 was originally published on the Atlantic Council's website in December 2021, ahead of the release of this PDF version in April 2022. Some of the scenarios envisioned in "The Top Twelve Risks and Opportunities for 2022" portion of the package therefore may have already begun to unfold or events may have played out differently than the authors expected.



Welcome to 2030: Three Visions of What the World Could Look Like in Ten Years

By Mathew Burrows and Anca Agachi

Pandemics have often proven turning points in history. The Black Death in the 1300s helped undermine feudalism,¹ while some believe the Spanish flu tipped the balance in favor of the Allied cause in the final days of World War I.² Yet the current one has been less a *disruptor* than an *accelerator* of trends that were already fraying the fabric of the post-Cold War international system long before the outbreak of SARS-CoV-2. Two grueling years into the pandemic, it feels like we've seen it all. But it may just be that we ain't seen nothing yet. Many of COVID-19's effects on twenty-first century human civilization, in fact, are not yet visible. Much of the non-Western world still awaits sufficient vaccines, and the fallout from pandemic-induced economic downturns will unfold over the course of years, just as the repercussions of the 2008 global financial crisis did. Meanwhile, Sino-US hostility exacerbated by the public-health crisis raises the specter of large-scale conflict after decades of relative peace among the world's most powerful states. Also suffering serious

and hugely consequential setbacks: the march of globalization and the multilateralist architecture designed after World War II to maintain peace. So what lies ahead? Well into the 2020s, COVID-19 will cast a long shadow over communities, workplaces, markets, battlefields, and negotiating rooms. But even as the centrifugal forces driving the world away from multilateralism and toward multipolarity accelerate, the future is not fixed. We humans have agency in shaping it.

Here, building on our work on strategic foresight and global trend analysis inside the US intelligence community and outside government, we envision three alternative worlds in 2030. The intention is not to predict what's coming next, but rather to highlight the factors that could lead the world in one direction or another—and thus provide insights that can spur strategists to prepare for possible challenges, plan for potential opportunities, and pursue a brighter future by making prudent decisions in the present. Instead of a crystal ball, what we offer are portals to different universes.

The scenarios in this ten-year forecast are informed by ten significant trends outlined below that are already transforming today's world and likely to shape the world a decade from now as well.

1 The Vaccine Miracle—and Cautionary Message

The development of COVID-19 vaccines was remarkably rapid, with those most vulnerable to the virus in rich countries inoculated within a year of the pandemic breaking out. If vaccine development and distribution had been slower, the death toll from the disease would now be several times higher. The tragedy, however, is that poorer countries still lack enough vaccines; although a small majority of the world's population has now received at least one dose, coverage remains highly uneven;³ in Africa, for example, less than 10 percent of the population has received at least one dose as of November.⁴ The longer a substantial portion of the world's population remains unvaccinated, the higher the risk that more contagious variants like Delta emerge.

Absent the vaccines, a much deeper global recession would have also ensued. Western countries would have gone into greater debt to cover health and unemployment costs, and struggled more to emerge from the crisis. The World Bank anticipates that economic growth in advanced economies will be almost twice as fast in 2021 as it was after the Great Recession.⁵ The fact that many Western policymakers were involved in or closely observed the response to the global financial crisis was an advantage: they pushed for higher stimulus than in 2008-09.

Will the current crisis yield similar wisdom for subsequent ones? The scale of this pandemic—only comparable to the Spanish flu a century ago—should not lull the world into thinking another one won't emerge in the near future. There is peril in wasting this opportunity to build more global resiliency, particularly for those without the means to weather such disasters. Will lessons be learned from the inequitable delivery of vaccines? Will the developing world gain the manufacturing capacity to ensure speedier distribution of vaccines next time? There should be no “losers” in a vaccine scramble. Yet who wants to bet that the developed world has learned this lesson—or that it grasps the long-term damage already done to its reputation in the rest of the world?

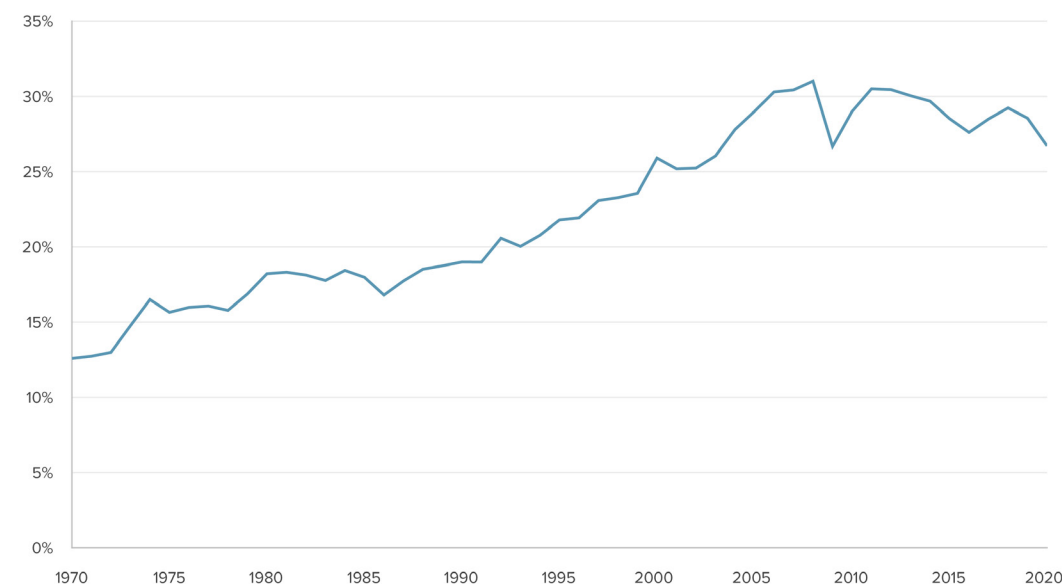
2 Technology's Double-edged Sword

If science came out of the pandemic a winner, technology was a close second. Without computers and connectivity, the lockdowns could have ground most economic activity to halt. Managers were surprised by the productivity of remote work. Some types of work, however, could not move online. Those in service jobs—including many ethnic and racial minorities—could not stay at home and were thus disproportionately affected by the COVID-19 crisis.

The future of work will be hybrid, with in-person and remote aspects. While telework has been around for decades, it took a transformative event to force the paradigm shift. To the extent that workers can benefit

Global exports of goods and services (% of global GDP)

The exports of goods and services as a percent of GDP are a good proxy for measuring trade openness and, with it, globalization. As the World Bank data shows, globalization has been stagnating since the end of the 2007-2008 financial crisis, prompting experts to warn of a “slowbalization” or even “deglobalization.”



from a more flexible routine, this could be a positive development for keeping more people in the workforce—helping to persuade working mothers (who were disproportionately impacted by the economic fallout of the pandemic) to reenter and seniors to stay employed. But other challenges, including long-term job insecurity as automation progresses, will offer more tests but few easy solutions.

3 Here Comes Deglobalization

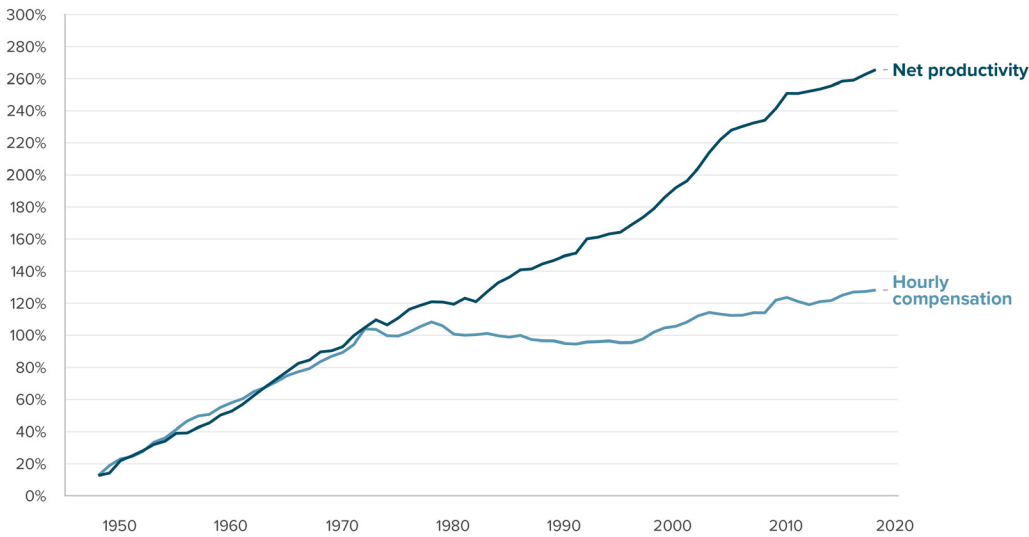
The developing world has lost many of the benefits of globalization—at least for the time being. A significant portion of the once-rising global middle class slid back into poverty as a result of the pandemic and its economic ramifications, reversing perhaps humanity's biggest achievement in recent decades. Without targeted policy interventions, the world is verging on return to a two-speed world of “haves” and “have nots.” With the pandemic still raging in the developing world, the full extent of the damage to that new global middle class remains unknown. Some countries will gain strength from overcoming pandemic-related challenges, but the weakest will probably experience growing political instability and even state failure.

For many poor countries, recovery from the dislocations of deglobalization is further complicated by other challenges. The threat of food crises, for example, has increased for nations suffering endemic conflict plus the added strain of the pandemic and global economic slowdown. At least 155 million people in fifty-five countries and territories were estimated to be in danger of serious food deprivation or worse in 2020⁶—an increase of around twenty million people since 2019—with catastrophic conditions in countries such as Afghanistan, Yemen, Burkina Faso, South Sudan, and the Democratic Republic of the Congo.⁷

Another challenge in surmounting the consequences of deglobalization is climate change. Africa’s gross domestic product, for example, could decline by 15 percent by 2030 as a result of climate-related disasters and spending on efforts to adapt to a warming world, according to the Economic Commission for Africa.⁸ African leaders aiming to overcome these challenges can look to trade and economic-reform opportunities. The African Continental Free Trade Area officially started trading on January 1, 2021,⁹ and estimates suggest that trade liberalization could increase African real income by \$450 billion by 2035.¹⁰ Such a development could blunt the damage inflicted by COVID-19 and help boost the continent’s post-pandemic economic recovery.¹¹

Productivity growth and hourly compensation growth in the United States, 1948–2018

Historically, the health of the middle class has been a relevant proxy for assessing the stability and democratic prospects of a polity. Even as net productivity has skyrocketed among the US workforce, wages have remained mostly stagnant since the 1970s, pointing toward a hollowing out of the middle class.



4 The Deepening of Domestic Disorders

Today there is more inequality not just between developed and developing countries, but also within many of these countries themselves. This is the second major global economic crisis in a little more than a decade, battering those who had already suffered setbacks in establishing their careers or who had only recently picked up the pieces from the 2008 financial crisis. In the United States, for instance, many women left the workforce during the pandemic to take care of their kids when childcare centers closed and schools switched to remote learning, while ethnic and racial minorities have continued to suffer from higher unemployment than the working population as a whole.

In advanced economies, the relatively rapid recovery is a hopeful sign for those hurt economically by the pandemic. Yet the future of work will remain turbulent, particularly for the unskilled and semiskilled. The pandemic spurred employers in some industries to invest more in robotics and automation rather than recruiting and training workers. Even before the coronavirus crisis, in fact, there were numerous forecasts that greater automation was coming. That practice could now speed up, further increasing inequality and job insecurity.

The Internet and social media—so vital in maintaining economic activity—have also unleashed forces that threaten democracy. On the one hand, new digital platforms support freedom of expression, offer new possibilities for democratic participation, and provide access to diverse information. For authoritarian leaders, the expansion of information and communications technology can be a menace in providing citizens with powerful tools to mobilize against the regime. On the other hand, new technology platforms give birth to information bubbles and polarization, increase the effectiveness of misinformation and disinformation, and promote a nonconsensual culture of debate. Hate speech and conspiracy theories pose an increasing danger to civic trust and democratic political order. In democracies, extremist and populist parties have been able to capitalize on these dynamics. These technologies also enable corporate and state entities to engage in potent new forms of surveillance and information manipulation.

Tech companies oppose government measures to address these concerns that go against their business models, while governments themselves worry about the impacts of such measures on innovation and national competitiveness. With more regulations increasingly likely in Western countries to guard against harm to children and better protect privacy, the burning question is how to balance these potentially conflicting objectives.

5 Meet the New World Order 2.0

The pandemic could have been a catalyst for a rebirth in global cooperation, but instead it revealed just how frayed the world's multilateral structures are. This largely proved to be a time for the nation-state to take charge, as countries closed borders, instituted lockdowns, and looked after their own interests.

Given how much mutual distrust the pandemic has sowed between China and the West, it will be hard for them to reach consensus on reforming the World Health Organization. That same distrust is evident in other international institutions. The United Nations Security Council has been paralyzed by Russia and China working together to wield their veto power.¹² While the Biden administration has recommitted the United States to the Paris climate accord, it has yet to move ahead on an effort with European nations to reform the World Trade Organization, which is critical to the running of a rules-based trading system. We are living through an age of multipolarity without multilateralism.

After the end of the Cold War, the George H. W. Bush administration talked about a “new world order.” It envisioned a return to the original conception for a post-World War II multilateralist global order that never took shape due to divisions between the Soviet Union and United States. In such a world, so the thinking at the time went, countries would cooperate to solve common problems and strive for Western values such as democracy and liberal markets.

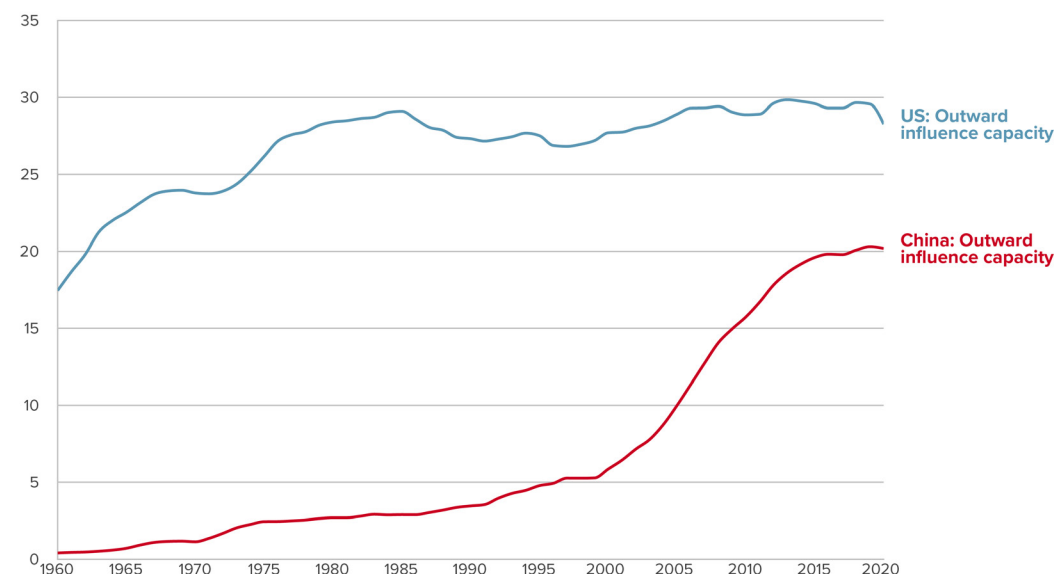
Three decades later, the pendulum has swung in the opposite direction. Sino-US tensions make military conflict between great powers conceivable again for the first time since the end of the Cold War. The Biden administration has chosen not to reverse or even temper the growing US hostility toward China that was a hallmark of the Trump administration. China, meanwhile, is rushing headlong to claim its perceived rights as a great power, determined to call into question any US pretense to unrivaled global leadership.

Just beneath the surface of US angst are fears of a world in which China displaces the United States as the dominant political and economic player. In the words of President Joe Biden, China has “an overall goal to become the leading country in the world, the wealthiest country in the world, and the most powerful country in the world. That’s not going to happen on my watch.”¹³

China will probably overtake the United States later this decade or early in the next one to become the world's biggest economy as measured by market value. Most Europeans believe that China is already the dominant economic player, according to the Pew Research Center.¹⁴ Yet the US public is not ready to concede that preeminent position, which

Overall influence capacity of China and the United States, 1960-2020

Chinese influence has been increasing steadily around the world, at the same time as the United States' influence has been stagnant and even started declining in recent years.



suggests that once the shift happens it will deal a psychological blow to Americans—having the effect of pulling the rug out from under the nation's “exceptional” destiny. Also striking in the Pew polling is that neither age nor political-party affiliation was a big factor in whether or not the American public had unfavorable views toward China, heightening the sense of a unified America engaged in a contest with China in which perceived defeat would be keenly felt.¹⁵ For Europeans who lost empires some time ago, the idea that the United States would be immune from relative economic decline seems unrealistic.

The United States and China may well find a pragmatic framework for cooperating on select mutual interests. Significant advances—the Helsinki Accords' human-rights agenda and arms-control agreements, for example—were made during the Cold War when it suited Washington and Moscow. One should not dismiss such possibilities. Yet the chances of US and Chinese leaders collaborating to build a more multilateralist world look dim, at least for the next decade.

Biden hopes to constitute a democratic order with US allies and partners, excluding China, Russia, and other authoritarian countries. On most global issues, this would be unworkable—and perhaps dangerous. The Versailles peace settlement after World War I ignored the Soviet Union and Germany, with disastrous consequences. No viable global order is possible without inclusion of all the major powers, including Russia and China.

China does not have any kind of multilateralist blueprint in mind for the global order and doesn't want Western-designed global institutions to set the rules for international relations. Chinese leaders know that the country's breakout as a global power on a par with the United States won't be frictionless. What China wants is a world that won't hinder its brand of state capitalism and authoritarian rule. As a rising power and former victim of colonial exploitation in the nineteenth and early twentieth centuries, China is sensitive to any perceived curbs on its sovereignty, believing that its great-power status gives it the right to regional, if not global, sway. Chinese leaders want to find ways to circumvent (and perhaps, over time, even supplant) the United States, which has used the web of multilateral institutions to anchor its global power.

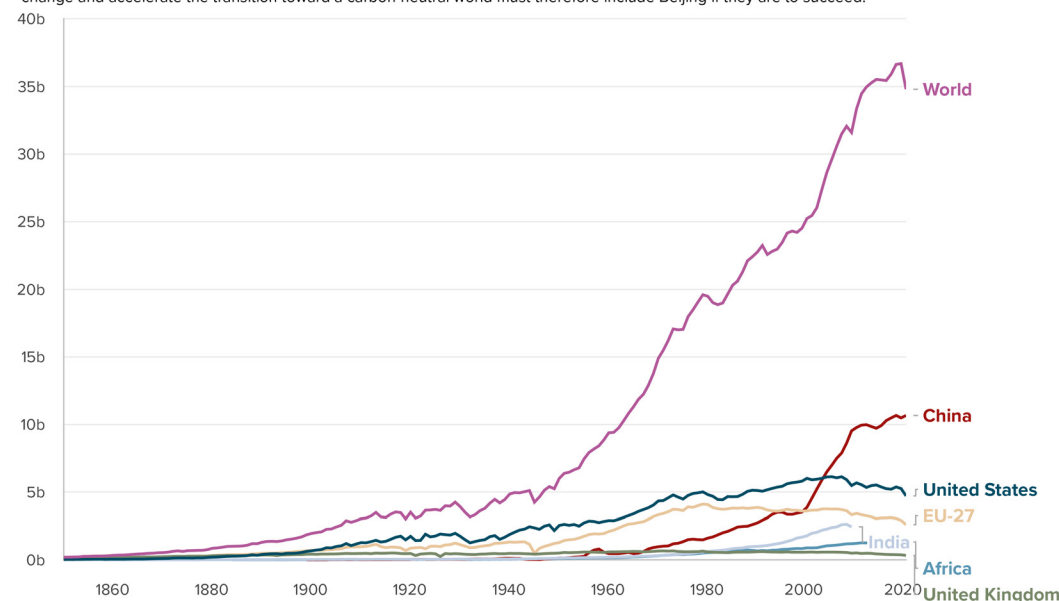
6 Climate Change: Where Some Sino-US Competition Might Actually Be Good

Even on issues like climate change, where China and the United States have obvious common interests, cooperation and competition will likely both occur. That may, in fact, be the best outcome.

Biden has talked about the United States producing the needed technology to fight climate change, yet as the *Financial Times* has noted China “dominates the sourcing, production, and processing of key clean-energy minerals worldwide,” and is the global leader in clean-tech manufacturing.¹⁶ It controls around 70 percent of lithium-ion battery metals and processing along with 90 percent of the rare-earth elements used in high-tech weapons systems and offshore wind turbines, while making three-quarters of the planet's solar panels, according to the paper.¹⁷ If the United States deploys tariffs or sanctions against China's climate-related technology in a similar manner to how it has tried to combat the Chinese telecommunications company Huawei, then the global fight against climate change will suffer. At the same time, China is an egregious emitter of greenhouse gases and is having difficulty weaning itself off coal, despite its promises to do so.¹⁸ For all developing states, including China and India, the choice between growth fueled by cheap, dirty fuels and more expensive green-energy sources is a challenging one. The United States and European Union will need to use carrots and sticks to get China, other developing countries, and perhaps even some allied advanced economies like Australia to cut back on dirty fuels if the world is to achieve and accelerate its timetable for a carbon-neutral world.

Annual carbon-dioxide emissions

China's share of carbon-dioxide emissions has been growing rapidly in the past couple of decades. Any transatlantic efforts to combat climate change and accelerate the transition toward a carbon-neutral world must therefore include Beijing if they are to succeed.



Climate change is too important a global concern to be endangered by Sino-US competition, but it would be naïve to think that neither side will seize on the issue to gain advantage over the other. Some horse trading between Beijing and Washington will inevitably have to happen if they are to reach their climate goals. Sino-US competition over which country is the global leader in the climate-change fight might even be a good thing as long as the rivalry does not swerve into military conflict.

7 A Middle-power Balancing Act against a Bipolar World

While the Sino-US relationship looms ever larger over the future of international relations, middle powers have nevertheless found ways to play critical roles (for good or ill) in a world in which power continues to diffuse. Despite the many predictions of its arrival, ours is not a bipolar world—not yet, at least. Even Asian nations that are highly dependent on China economically are hedging their bets, as many expand their security cooperation with the United States. European allies share US concerns about Chinese intellectual-property theft, forced technology transfers, and takeovers of businesses in strategic sectors with sensitive technologies.¹⁹ Yet they still want to cooperate with Beijing—not just compete—and are opposed to any economic decoupling between the West and China. These Asian and European partners seek to head off a military conflict between the United States and China, which could destroy the global system. They are pursuing their policy agendas independently of Washington and Beijing.



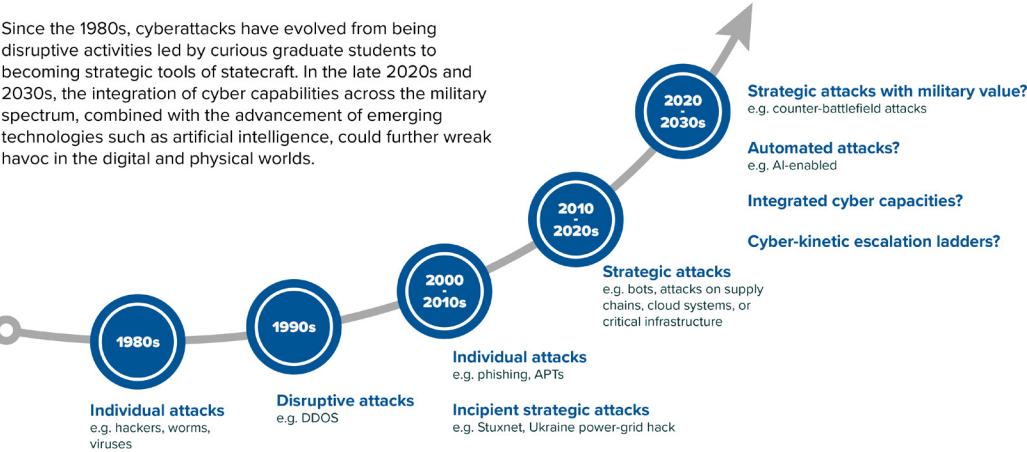
For the United States, this state of affairs has benefits and drawbacks. While Washington can't assume its allies and partners will automatically fall in line with its agenda, those allies and partners can take the lead on common objectives when the United States becomes preoccupied elsewhere. The European Union and Japan, for instance, sought to keep the flame of free trade alive when the United States disengaged from that effort during the Trump years. In just four years, the EU negotiated major trade deals with Japan and South Korea, reaching additional agreements with Canada, Singapore, Vietnam, and China. Japan's former Prime Minister Shinzo Abe didn't let the idea of the Trans-Pacific Partnership idea die when Donald Trump pulled the United States out of the trade agreement, remaking it as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) in hopes of getting a post-Trump America to join. Japan also joined the Regional Comprehensive Economic Partnership (RCEP). Other major Asian economies, including Australia, New Zealand, and Singapore, signed onto both CPTPP and RCEP.

8 Europe’s Quest for Strategic Autonomy

While “strategic autonomy” has long been a goal for many Europeans, the Trump presidency and the contempt that the former administration showed America’s allies inspired a revival of European interest in being independent—not just from the United States but increasingly from the growing power of China as well. Protecting the European Union’s digital sovereignty by enforcing regulatory standards on foreign tech companies operating in Europe has turned out to be one of the more promising ways for Europe to augment its strategic autonomy. Lacking tech behemoths comparable to those in the United States and China, the EU has aimed to use its power as one of the world’s largest marketplaces to set regulatory standards for the rest of the planet. Brussels has spearheaded data-privacy protocols for the Internet, which have already influenced privacy standards or laws instituted by California and China. It is now trying to establish standards on artificial intelligence (AI). Along with trade deals, these efforts have boosted the EU’s economic weight.

In the military realm, there have been renewed effort to develop a European defense identity alongside NATO. Without major new investments in defense, however, European leaders will still rely on the United States to deter Russia. Yet Europeans can take on more responsibility for other defensive tasks such as policing Europe’s external borders for illegal migratory flows and criminal activity. Like the United States after its exit from Afghanistan, European governments are loath to engage in more nation-building. The reality is that EU member states would be dependent on Washington for intelligence and airlift capabilities even for a medium-scale intervention such as the counterterrorism mission that France is drawing down in the Sahel.

The evolution of the cyber threat landscape



9 An Emerging Asia-Pacific Hedging Strategy

Highly dependent on China as the economic motor for the region, some Asia-Pacific nations see the United States as a critical counterweight against Beijing. For them, Sino-US tensions escalating toward open conflict would be as alarming as a US exit from the region.

China's aggressiveness in recent years has revived and expanded the focus of the Quadrilateral Security Dialogue, or Quad, involving Australia, India, Japan, and the United States. While experts emphasize that the Quad is not an Asian NATO, US officials believe it can play an important coordinating role in diplomacy; maritime security; supply-chain security; and technology design, development, governance, and use.²⁰ The Quad, for example, recently set a joint goal of distributing one billion COVID-19 vaccine doses in Asia by the end of 2022.²¹ If and when that happens, such a provision of public goods would be hard for China to counter and represent a way for the United States and its partners to project leadership.

Collective efforts like these are necessary at a time when individually Asian countries are no match for Chinese power. That includes India, whose pandemic-pummeled economy, according to the Lowy Institute's Asia Power Index, is expected to be 13 percent smaller in 2030 than forecast prior to the COVID-19 outbreak—the only Indo-Pacific nation to suffer such a large economic setback.²² Even though India will eventually surpass China in gross domestic product, due to its still-burgeoning population, that moment is decades away. The Lowy Institute characterizes Japan as “the quintessential smart power” in punching above its weight, but one that is nevertheless in decline.²³ While others—such as Australia, Vietnam, and Taiwan—are gaining in power as measured by the index, none can hope to counter China alone. The United States still ranks as the preeminent power in the region but “registered the largest fall in relative power of any Indo-Pacific country in 2020,” according to the Lowy Institute.²⁴

In an atmosphere in which neither of the superpowers has (yet) prevailed, the region's middle powers are better able to exert influence. While many Asian powers now appear more intent than they were in the past on countering an aggressive China, they worry that the United States will take an overly militarized approach to the endeavor. These nations would be apt to restrain Washington if the contest with Beijing heated up and risked breaking into open conflict.

10 The Growing Internationalization of Conflict

The risk of conflict extends beyond growing Sino-US tensions. In today's multipolar order, governments see battlefields as fertile grounds to shape balances of power, advance their economic agendas, or aid parties to the conflict that are more aligned with their national-security interests. Turkey, Russia, and Iran, for instance, are jockeying for expanded influence in such conflicts. In part because of this internationalization of intrastate conflicts, fighting is increasingly protracted, intense, and complex, to the detriment of civilians.²⁵

Battlefields are less traditional too. Since 2005, thirty-four states are believed to have sponsored cyber operations, with China, Russia, Iran, and North Korea thought to have instigated 77 percent of all suspected efforts.²⁶ States can use cyberattacks both as an asymmetric tool to reduce a power imbalance in conventional military capabilities (e.g., North Korea), and as a symmetric one integrated across the entire spectrum of operations and domains (e.g., China). Whereas cyberattacks were previously mostly isolated incidents meant to disrupt particular systems, they are increasingly becoming a strategic tool. For example, the United States used offensive cyber operations to strike ISIS forces responsible for proselytizing, recruiting, and launching attacks.²⁷

Looking ahead, experts and policymakers alike are concerned that emerging technologies such as AI, biotechnology, and 5G, or new systems such as the Internet of Things (IoT) or cloud computing, will exacerbate Internet insecurity by revealing new vulnerabilities and providing additional tools to nefarious actors. For example, an **Atlantic Council report** considering alternative cyber futures mapped three potential universes: one in which cyber capabilities are mainstreamed and great-power competitors have the advantage; another in which the Internet is splintered across governmental, cultural, and business lines; and yet another in which new technologies such as AI lead to an arms race and generalized insecurity.²⁸

WELCOME TO 2030: Three Alternative Worlds in 2030

SCENARIO 1: Cold War II, with a Twist

European and Asian countries don't go along with splitting up the world again

UNDERLYING DRIVERS: Stung by criticism of his handling of the inflationary economy and messy US withdrawal from Afghanistan, Biden compensates by getting tough on China and Russia. Future US administrations also consider the threat posed by China to be an existential one for American power in the world. Meanwhile, a lack of US coordination with allies on military, economic, and technological matters weakens transatlantic ties. As economic growth and tech innovation sputters momentarily in China in the mid-2020s, the country's middle class grows restive and the younger generation struggles to find good jobs.

TRIGGERS: China meets many of its "Made in China 2025" goals but lags behind in developing domestic manufacturing of cutting-edge technologies.²⁹ With Xi Jinping under pressure on the tech front, US administrations spot an opportunity to further undermine Chinese economic growth with more US tariffs against Chinese tech exports and restrictions on US chips and other exports that could aid Chinese tech companies. Perceiving China to be weaker than it once was, the United States also decides in 2025 to push its luck and officially recognize Taiwan, which sparks a Chinese nationalist outburst and increased popular support for Xi and the Communist Party. Beijing seizes the Pratas/Dongsha Islands in the South China Sea southwest of Taiwan, presenting the United States with a fait accompli. Washington calls on the United Kingdom and the European Union to implement stiff retaliatory economic sanctions against China, which the UK and EU water down as they call for the US and China to negotiate an agreement on Taiwan. On another front, Russia expands its control of territory in eastern Ukraine while the United States pushes Ukraine and Georgia toward NATO membership over Western European opposition.

Implications

TRADE AND IMMIGRATION: Even before the Taiwan crisis, the United States presses Asian partners to forestall negotiations on Beijing's bid to join the CPTTP—and to instead accelerate negotiations with Taiwan to enter into the pact. Throughout the 2020s, US leaders believe there is too much domestic political opposition for the United States itself to join the agreement. The United States slows EU and other efforts to reform the World Trade Organization, threatening the rules-based global trading system. Despite US pressure, the European Union pushes for strategic autonomy from Washington on economic and tech matters, resisting US secondary sanctions against China and Russia that would hurt EU businesses.

INNOVATION: As part of its efforts in the mid-2020s to stunt Chinese tech advances, the United States sets immigration quotas on the number of Chinese students allowed to study science and technology and Chinese professors teaching at American universities. The United States forces universities receiving government research grants to prohibit their science faculty from getting grants from Chinese entities and to declare their Chinese contacts. All this leads to a decline in joint US-Chinese patents. The renewed vibrancy of Chinese innovation by the end of the 2020s despite these prohibitions surprises US officials. Chinese students seeking advanced studies start favoring Europe, and many US firms move their research labs to Europe to draw from available Chinese talent there.

CLIMATE AND ENERGY: Innovation in climate-change technology slows as a result of US bans on imports of Chinese climate-related products. Early in the decade, China struggles to develop its own chip industry, which is critical to developing climate-related products such as high-powered sensors, but it overcomes these challenges by 2030. Beijing contemplates relaxing China's commitment to achieve carbon neutrality by 2060, out of fear that the country has been too slow to scale the needed technologies and that making good on its ambitious pledge will further slow economic growth. Geopolitical tensions between China and the United States take a toll on international efforts to achieve climate targets.

DOMESTIC GOVERNANCE: Democracy continues to backslide. In former democracies, public faith in strong leaders grows, particularly amid slower economic growth. Washington is willing to turn a blind eye to allies that are adopting authoritarian approaches—as long as these leaders are prepared to join forces with the United States against China.

GLOBAL COOPERATION: Global cooperation sinks to new lows. Russia joins China in blocking US actions at the United Nations and other multilateral institutions. European leaders strive to lower US-China tensions and rebuild global cooperation, but don't have sufficient influence with either Washington or Beijing to do so. Growing Russian aggression near Europe gives European leaders no alternative to backing Washington and NATO.

WAR AND VIOLENCE: Russian and Chinese cyberattacks on US critical infrastructure reach new heights, disabling the Washington and New York subway systems. Washington retaliates with a cyberattack against the Russian gas pipeline servicing China, halting natural-gas deliveries for over a month. As tensions escalate, Russia and China start planning a simultaneous invasion scheme: Russia will occupy a larger swath of Ukraine while China retakes Taiwan, stretching US resources. Acting on intelligence regarding Russia's plans, NATO forces mobilize on Ukraine's border. The big European NATO members, such as France and Germany, refuse to go along with US desires to retake Russian-held territory and return it to Ukraine. Despite similar intelligence on Chinese scheming, most European and Asian allies won't engage in or actively support US-proposed preventive military strikes against Chinese invasion forces for fear of Chinese economic retaliation and military escalation. European and Asian countries call on both Washington and Beijing to stand down, as the European Union and the Association of Southeast Asian Nations organize a peace conference to settle all conflicts.

Regions

EUROPE: Western European governments position themselves between the United States and China, playing the role of mediators and facilitators of compromises. European countries nearer to Russia, meanwhile, seek continued US security guarantees—dimming the EU dream of “strategic defense autonomy” as regional leaders rally with NATO to deter Russian aggression. Western European governments oppose Central European efforts to offer NATO membership to Ukraine, splitting the European Union and paralyzing its foreign and security policy efforts. Some Central and Eastern European countries provide token military support for the US struggle against China, and Beijing retaliates with trade sanctions. US penalties for trading with China take a toll on European economies.

NORTH AMERICA: Under strong US pressure, Canada and Mexico go along with US measures to isolate China. The Mexican government, still fighting drug-related violence, responds by calling on Washington to police the border for arms trafficking, producing an agreement between the two countries to better secure the border by ending arms trafficking and regulating migrant flows.

EURASIA: The region comes under a strong Sino-Russian grip. Following the US withdrawal from Afghanistan, Beijing and Moscow worry about instability and the spread of terrorism in Eurasia, and view Washington as sowing discord in their backyards. Moscow and Beijing back authoritarian regimes in the region seeking to quell dissident movements.

ASIA-PACIFIC: As tensions mount with China over Taiwan, the United States' alliance-building efforts force countries in the region to choose a big power to align with. Australia, Japan, and Vietnam are easily persuaded to pick the United States. Others offer only small amounts of support to

avoid angering China. At first, Beijing is heavy-handed in reaction to this realignment, levying economic sanctions against those who enter into security partnerships with Washington, but then it uses carrots (such as development assistance and infrastructure deals) in its bid to thwart encirclement. The exception is the Chinese government's punishment of those encouraging diplomatic recognition of Taiwan or Taiwanese independence.

SOUTH ASIA: India pays an economic price for aligning with Washington, as Chinese investment in the country falls. Pakistan is racked by terrorism and insurgency, making its stability a common concern of New Delhi, Washington, and Beijing. Concern grows throughout the region about sea-level rise and water scarcity stemming from climate change, prompting calls from many South Asian countries for the United States and China to stop their bickering and cooperate on addressing the climate threat.

MIDDLE EAST: Iranian nuclear-weapons development progresses to the point that Israel is planning unilateral military attacks against Iran. China and Russia mediate between Jerusalem and Tehran, hoping Israel will stand down and Iran will allow international nuclear inspections. When those efforts fail, Washington worries that a major regional conflict will stretch its forces just when its conflict with China is heating up. The United States strong-arms Israel into refraining from anything more than well-targeted strikes on Iran's nuclear facilities.

AFRICA: China's influence continues to spread in the region as Beijing draws needed commodities from African countries and offers unconditional assistance to help with post-pandemic recovery. European countries try to resist growing Chinese encroachment but expend most of their efforts on patrolling the southern Mediterranean coastline for immigrant boats, virtually stopping migration from Africa to Europe. Rapid population growth in the Sahel and elsewhere, combined with droughts caused by climate change, produce a major famine in the late 2020s.

SOUTH AND CENTRAL AMERICA: The United States tries to get South and Central American countries to join its campaign to isolate China. With the closure of the US southern border, however, most don't go along with the campaign or provide only selective support. Washington cuts assistance to those that don't rally to that cause. The Organization of American States becomes moribund due to rising resentment between the United States and many Latin American countries, including over the level of US assistance to other member states during the pandemic. China, for its part, maintains most of its assistance programs to the region.

SCENARIO 2: A World Transformed by Climate Shocks

Disasters reshuffle the geopolitical cards

UNDERLYING DRIVERS: Major powers procrastinate on measures that would rapidly cut carbon emissions for fear of causing economic distress. Developing countries wait on Western assistance to cut their emissions. Even when evidence mounts of more rapid climate change than scientists once assumed, decision makers think there is still time to act. The world's climate, however, begins to deteriorate rapidly, with the Northern Hemisphere hit harder than anticipated.

TRIGGERS: As the northern polar jet stream weakens, the circulation of weather systems breaks down. High- and low-pressure systems move more slowly, lengthening heat waves and storms that unleash historic floods. Early indicators include flooding in northwestern Germany and the 2021 heat wave in the American West, which exacerbated droughts and brought unprecedented high temperatures. In the late 2020s, days of heavy rain in the New York City area and rising sea levels displace over a million people in the region; many residences are permanently condemned. Most of lower Manhattan becomes uninhabitable, with businesses closing for three to four months due to subway flooding and the destruction of utilities. London and Paris soon experience similar events. Shortly before these incidents, in China, a powerful typhoon tears through the Pearl River Delta, halting factory activity for four months. Rains and flooding build up, threatening the Yangtze River's massive Three Gorges Dam—a symbol of China's engineering prowess. While the dam holds, the crisis reminds Chinese leaders of the country's vulnerability to extreme-weather events.

Implications

TRADE AND IMMIGRATION: Amid mounting public panic about climate change and pressure to combat it, the United States and other Western countries ease their restrictions on exports of highly sensitive climate-related technology to China and others. Scientific exchanges between the United States and China are stepped up, and Washington welcomes into the country students seeking new skills related to the climate-change fight.

INNOVATION: As climate change takes on an urgency in the United States akin to George W. Bush's "war on terror" in the early 2000s, the US government stakes out a new top priority: to become the global center for climate innovation. Washington hosts a global summit on climate change and needed technologies to combat it. Washington declares select US technologies global public goods that will be shared with foreign manufacturers for the purpose of fighting climate change. The United

States explores geoengineering, while China and Russia are suspected of conducting their own experiments at that new frontier as well, generating concern among many scientists and other governments about efforts to change the climate through man-made means; the European Union, for example, fears that such efforts will do more harm than good.

CLIMATE AND ENERGY: The United States, Europe, and China agree to accelerate their timetables for achieving net-zero carbon emissions. Gulf countries and Russia oppose these moves and seek major fiscal assistance from the "Big Three." The United States, the European Union, and China establish a global investment fund to help low-income countries make the energy transition. They are, however, less generous toward the big oil producers who, they contend, ignored the writing on the wall for too long. With advances in battery storage in the early 2020s, the advanced economies (including China) are better positioned to move toward all electric vehicles. Still, supply constraints keep oil-guzzling vehicles on the roads into the early 2040s, particularly in developing countries.

DOMESTIC GOVERNANCE: As in wartime, Western governments tell their people, extraordinary challenges require extraordinary measures. The Democratic US president begins mandating changes—from all-electric vehicles to new building codes and mandatory rehabilitation of existing structures to meet green energy standards. State governors, particularly in regions less affected by extreme weather, take the federal government to court, but the Supreme Court backs the new emergency powers. A significant minority of US citizens engage in civil disobedience to protest the government's new climate mandates. Some EU member states resist Brussels's growing federal powers but still require the European Union's assistance to make a more rapid energy transition. China and other authoritarian governments already have the executive powers to take climate action and face little public resistance to doing so. While it remains official US policy to call on China to liberalize, democracy promotion is now a lower priority for Washington.

GLOBAL COOPERATION: Most countries come to see the need for collaboration to counteract climate change. Low- to medium-income countries seize on the sudden panic over extreme-weather events to get richer countries to pay for their energy transition. US leaders opt for country-to-country cooperation rather than working through existing UN institutions they consider too slow or trying to establish new global institutions they fear will end up creating obstructionist bureaucracy or enabling China and other nations to dent US leadership. Although Brussels does not share the same concerns, the EU goes along with Washington to bolster the global campaign to save a warming planet.

WAR AND VIOLENCE: With the threat of Sino-US conflict diminishing substantially as a result of expanding climate cooperation between the two powers, US leaders order the military to avoid any provocative actions

against China. Each side beefs up its intelligence gathering on the other, anticipating that the contest will one day resume. And Chinese leaders do not let up on their military buildup. Pessimists see a parallel with the temporary US-Soviet cooperation against a common Nazi enemy during World War II, while others predict a generation or more of climate-change cooperation. Many US and EU policymakers worry about a Russia weakened by lower energy revenues becoming more aggressive. It proves politically difficult for the United States to lend a helping hand to Russia, but the European Union drops its economic sanctions against Moscow and invests in diversifying the Russian economy.

Regions

EUROPE: Germany, Europe's largest trader with China, welcomes the liberalized US-backed trade regime with Beijing. Europeans believe the United States has finally gotten on board the climate-change drive, and transatlantic ties reassume a closeness that has not existed since the Cold War. The biggest concern for Europe is accomplishing the costly energy transition without triggering a surge in unemployment and wage stagnation. EU leaders also worry about a brain drain of European scientific and tech talent to the United States due to Washington's resources (largely shifted out of the Pentagon's budget) for climate technology.

NORTH AMERICA: US decision makers worry that the energy transition will benefit Chinese manufacturing as well as that of its trade partners in the United States-Mexico-Canada Agreement. While cooperating with China and supporting liberalized trade, they weave incentives for domestic manufacturing into their new energy-transition initiatives. It is a difficult balancing act. Some in Congress want to erect barriers against the flood of "cheap" Chinese climate imports. To avoid a populist backlash and a repeat of pandemic-era political divisions, the US federal government invests heavily in professional retraining and lifelong learning to better prepare the workforce for the green-energy era. Younger generations heavily back the needed changes and are better equipped to acquire new skills.

EURASIA: With prospects for its energy industry dimming due to China, the United States, and Europe accelerating their green agendas, the Russian economy begins to contract. With Sino-US tensions on the wane, Vladimir Putin is replaced by a leader who opens up the country to the West while still maintaining close ties with China.

ASIA-PACIFIC: Lower Sino-US tensions and trade liberalization fuel the growth of Asian economies. China and the United States both join the CPTPP trade pact. Pressures build within China for more personal liberty. Xi tries to stoke nationalism, but ultimately he yields to others in the Communist Party who want limited political reform. It is unclear whether the reforms will suffice; Xi's supporters warn that China is on a slippery slope, pointing to the failures of the Soviet glasnost policy in the 1980s.

SOUTH ASIA: The Indian government is bitter about losing its privileged position with the United States vis-à-vis China. It calls for US, EU, and Chinese assistance to transition out of cheap coal.

MIDDLE EAST: Iran and the Gulf countries face diminishing returns from oil and gas. They pursue a policy of low production to maintain high prices. Over time, it proves impossible to maintain such quotas as oil producers try to maximize profit to finance economic diversification.

AFRICA: African governments point to growing climate-related ravages to their countries, such as droughts, and call for increased help as the United States and others put together a global investment fund to help the region adapt and become more resilient to the consequences of climate change. Food insecurity grows, resulting in famine in some countries. African leaders seek exemptions from limits on carbon emissions given Africa's limited role in causing climate change. Washington, Brussels, and Beijing are open to their position.

SOUTH AND CENTRAL AMERICA: Latin America benefits from lower Sino-US tensions and the US government's new tech-sharing policy. Brazil calls on the international community to heavily fund the preservation of the Amazon rainforest.

SCENARIO 3: A Democratic Renaissance

Western governments get serious about tackling their governance crises

UNDERLYING DRIVERS: Initially hopes are high that the West will pull out of the pandemic, experience accelerated economic growth, and return to relative normalcy. After a spurt of growth in which most segments of the population see gains, however, pre-pandemic structural problems resurface—particularly the inequalities that had worsened during the COVID-19 crisis. It looks like Western societies could be pulled apart. Yet the pandemic has been an eye-opener for many about the deep divisions in their societies. For the more tech-savvy younger and coming-of-age generation, it is intolerable for the unskilled and semiskilled to be "losers" in the technological revolution. Older generations—increasingly victims of automation—also come to see the benefits of a better social-safety net. Over time, the fears fueling populism dissipate and centrist politics come back to the fore as the maintenance of social consensus becomes a popular expectation for political leaders. Western societies become a model for modernizing societies, balancing efficiency and productivity with social equities.

TRIGGERS: Believing it best not to depend too much on the vagaries of human employment, in 2021-22 employers race to automate operations

as much as possible. The wages of the unskilled and semiskilled, many of whom had provided crucial services during the pandemic, initially grow as employers try to attract workers. Soon, however, these workers learn they are expendable as firms begin to automate their operations. Pre-pandemic full employment does not return, despite monetary-easing policies of central banks. In advanced economies, worker-participation rates drop as low-skilled job seekers find few good-paying opportunities. Many drop out of the market or take early retirement. Meanwhile, in China, Xi overreach with his economic and regulatory interventions sends China into a serious economic slowdown by the mid-2020s, buoying Western confidence in its democratic capitalist system despite that system's many evident challenges. Given China's growing structural problems, Western decision makers believe they have leverage to force Beijing to adopt market reforms. At home, Western leaders come to see some maneuvering room for crafting a new, more generous social contract with a stronger safety net, which counters the social fragmentation produced by new technologies.

Implications

TRADE AND IMMIGRATION: Increased geopolitical tensions at first limit interaction between US and Chinese firms, resulting in the contraction of global supply chains. Some European businesses bow out of the Chinese market for fear of US secondary sanctions while others concentrate on doing business with China and sell off their US interests. Once China's economic crisis gives way to market reforms, overseas investment pours into the country, worrying some prescient Western policymakers who believe China may come out of the crisis stronger.

INNOVATION: Tech-savvy workers fare well in the aftermath of the pandemic. Yet that initial improvement is not repeatedly replicated. Automation begins to impact more complex work processes, and a sense of growing job insecurity spreads. The stronger social contract that many democracies embrace, and which even the United States partly adopts, initially disrupts the economy. Increasing investments in human capital ultimately pay off in big productivity gains.

CLIMATE AND ENERGY: The energy transition gets a boost from China's adoption of market reforms and a resulting decline in US-Sino tensions. Chinese and US collaboration on new battery-storage technologies, along with their sharing of those technologies with other countries, encourage the adoption of renewable energy. China, the United States, and the European Union agree on instituting a carbon tax to make progress against climate change. Nonetheless, the world is still unlikely to meet its 2030 emission-reduction targets.

DOMESTIC GOVERNANCE: In the post-pandemic era, and against the

backdrop of the diminishing threat posed by China by mid-decade, those in the West who believe workers need more benefits and compensation have greater standing. Several CEOs of major companies take the lead by offering more benefits—paying educational and retraining expenses, for instance—and promising new employment to those whose jobs were eliminated through automation, resulting in greater productivity. Decreasing inequities and anger among publics produces healthier politics. As middle-class fortunes improve, democracy regains its allure as a system capable of securing its citizens' political and social rights.

GLOBAL COOPERATION: While differences remain over Taiwan and Chinese territorial claims in the South China Sea, Sino-US tensions decline in the mid-to-late 2020s as China adopts market reforms to reboot its economy, encouraging more Western business involvement in the Chinese economy. Western collaboration with China includes efforts to reform the International Monetary Fund and World Bank so that they accelerate the distribution of development assistance. China even seeks closer collaboration with the World Bank on Beijing's Belt and Road Initiative. The Chinese government ends subsidies for many state-owned enterprises (a number of these go bankrupt), giving the United States sufficient confidence to try to reinvigorate the World Trade Organization.

WAR AND VIOLENCE: In Africa, Central America, and South Asia, civil war and insurgencies gather steam due to extensive economic problems in the wake of the pandemic. Western nations, despite their democratic renewal and rising self-confidence during the second half of the decade, are reluctant to intervene in these conflicts or engage in nation-building.

Regions

EUROPE: Automation, with its efficiencies and productivity gains, is seen as a godsend for European countries with low birth rates and rapidly aging populations. Smaller nations better stanch societal inequities stemming from rapid technological changes than larger ones do. Income disparities are not as high in many of these smaller countries, which have long invested in expensive social-welfare programs. Governments aim to incentivize unskilled citizens to learn new skills. That requires transforming educational systems and new measures such as creating the legal right to periodic sabbaticals to learn new skills over several months, which in turn provides businesses with highly skilled workers. Alongside existing rights to healthcare and retirement benefits, citizens are granted a new right to lifetime learning. Despite witnessing the democratic renewal of their smaller neighbors, larger European countries struggle with sufficiently reducing social inequities to replicate that revival. Businesses push back on expanding worker rights and shouldering the costs. In France, where the Macron government had been trying to lessen employers' burdens, cost concerns

diminish interest in enhancing existing training programs and an already-generous social-welfare program. Critics cite low educational standards in economically deprived areas as the barrier to workers upgrading their skills.

NORTH AMERICA: In the United States, deep political partisanship slows reforms on a new social contract, including funding for reforming the educational system and upgrading worker skills. The federal government feels powerless to reverse sagging educational standards. Conservatives decry the growing role of government in the economy and warn that proposed training vouchers will push the country toward socialism and higher taxes. The growing numbers of job-market dropouts as a result of automation fuel populism at both ends of the political spectrum. When the unemployed and those who fear job loss stage a million-person march on Washington, the National Guard scrambles to protect protesters from armed right-wing groups but fails to avert a deadly clash. Jolted by the crisis, a fragile, politically centrist coalition forms with the mission of saving the republic by introducing a second, mini “New Deal.” While that deal does not go as far as progressives would like, it creates more training programs and gives the federal government more oversight over the US education system. Businesses recognize they went too far with automation and promise to retrain existing workers for new jobs.

EURASIA: Terrorist activity rises in Central Asia with Afghanistan’s economic collapse and humanitarian crisis. After a decade of little to no growth, Russia is thrown into political crisis with mass protests in its big cities. Increasingly self-absorbed, the Kremlin trims security assistance to the former Soviet states. Amid mounting political opposition, Putin is eased out of power to make way for a new regime that wants to reenergize the economy. Russia’s new leaders seek to improve ties with the West in order to end sanctions and attract foreign investment. Given its problems at home, China cannot be the economic engine Central Asia counted on.

ASIA-PACIFIC: Lessening Sino-US tensions and China’s market reforms strengthen regional economic integration and make China appear less threatening to its neighbors. As its economic crisis recedes and it cuts subsidies for state-owned enterprises, China is welcomed into the CPTPP trade agreement, reinforcing its central role as the key trading partner for other Asian countries. With the exception of a few countries like Australia, India, Japan, and Vietnam, Asian nations are no longer interested in strengthening their security partnerships with the United States. By the end of the decade, as China recovers, Washington realizes that it needs to strengthen its economic hand in Asia but has no obvious lever to do so, having rejected membership in the CPTPP and its predecessor, the Trans-Pacific Partnership.

SOUTH ASIA: India, scarred by the pandemic but facing a friendlier China, decides to join the Regional Comprehensive Economic Partnership, the trade agreement that includes China, Japan, and others. Seeing the revival

of Western democracies, New Delhi postpones its military buildup to instead make similar investments in education.

MIDDLE EAST: With tensions easing between Western powers and China and Russia due to the economic reforms in Beijing and change in political leadership in Moscow, cooperation at the UN Security Council springs back to life in the mid-2020s. Many wonder, however, whether it has come too late. Despite every effort by Israel, including aerial strikes and cyberattacks against Iran’s nuclear facilities plus assassinations of its key nuclear scientists, Iran has the “bomb” and an intercontinental missile capability. Western intelligence reveals that other powers in the Middle East—Turkey and Saudi Arabia—are trying to develop or acquire nuclear weapons as well. The US government fends off Israeli pressure for a combined attack on Iran’s nuclear facilities by delivering enhanced strategic missile defenses to protect Israel against any incoming attack, becoming an avowed nuclear guarantor of Israel’s security. While Israel doesn’t want to be beholden to the United States for its security, it doesn’t have a choice. The United States also supports European, Russian, and Chinese efforts to organize regional negotiations on a framework for curbing nuclear proliferation and lowering tensions between Israel and Iran.

AFRICA: Food insecurity, conflict, and slow economic growth create greater instability in Africa and more democratic decline. Western governments tacitly favor dealing with strongman governments that they believe will deliver on the promises they make. European nations enter into agreements with numerous African governments to stem emigration to Europe.

SOUTH AND CENTRAL AMERICA: Many Latin American countries initially struggle to regain economic growth lost during the pandemic, and China’s economic slowdown in the mid-2020s presents an added impediment for the region. Yet by the end of the decade, with China’s economic revival and the broader Asian economic boom, Latin American countries with commodity-based economies experience a strong economic recovery. Democratic decline in many Latin American countries abates as economic conditions improve. Increasing US investment in Central America aims to spur governments to reform and end gang violence as a way to reduce the flow of immigrants to the US border, but these efforts produce little immediate change. In a demonstration of its impatience, Washington pivots to increasing security at the southern border. The move is also motivated by the bipartisan immigration deal that US lawmakers have struck. In return for enhanced security at the border, the estimated eleven million undocumented immigrants in the United States are given a path to citizenship.



The Top Twelve Risks and Opportunities for 2022

By Mathew Burrows and Robert A. Manning

It's been more tug-of-war than clean break, but 2021 will mark the year rich countries began extricating themselves from the COVID-19 crisis. With ongoing vaccination challenges in much of the world and the worrying emergence of the Omicron variant, along with supply bottlenecks plus rising inflation and debt, the pandemic continues to exert its relentless push and pull on a beleaguered world. All the while the formidable geopolitical problems that world was wrestling with pre-COVID-19—from spiraling tensions between the West and China and Russia to the dearth of international action to counteract climate change—haven't gone away. Just the opposite.

So what will 2022 bring?

Drawing on our many years of experience in forecasting global trends and developments at the US National Intelligence Council, where we were tasked with providing US leaders with long-range analysis and insight, we have identified the top twelve risks and opportunities in 2022 for the world from a US perspective. (Note also what doesn't appear in these lists; potential crises over Taiwan's status or North Korea's nuclear weapons could be catastrophic, but in our judgment these long-simmering issues are unlikely to come to a boil in 2022.) We've ordered the scenarios by importance and assigned each a probability; "medium" means a 50-50 chance that the scenario will occur within the next year.

Top Risks

1 The Lack of COVID-19 Vaccination in Developing Countries Triggers New Variants That Are Potentially More Contagious and Lethal

Although a slight majority of the world's population has now gotten at least one dose of a COVID-19 vaccine, some regions are in far better shape than others;³⁰ in Africa, for example, just 10 percent of the population had received at least one dose as of November. Developed countries have largely failed to protect their weaker and poorer counterparts. The COVAX global vaccine coalition, for instance, has distributed just 400 million doses, far short of an initial 2021 goal of 1.9 billion.³¹ At the current rate, African populations won't be largely vaccinated until sometime in 2023 or later, which likely will lead to lower economic growth and political instability. Besides reflecting shamefully on the West's humanitarian values, the large numbers of unvaccinated could prove highly dangerous for Western citizens. The Delta variant, first detected in India and far more contagious than past strains, quickly spread worldwide, overwhelming hospitals in rich countries and even breaching the defenses of those already vaccinated. The Omicron variant, which was first identified in southern Africa, threatens a Delta replay, although its severity has yet to be determined. The longer much of the global population remains unvaccinated, the greater the chance of virus mutations that produce more contagious, severe, or vaccine-evasive variants. Even if vaccination coverage greatly increases, many experts believe we should be prepared to live with an endemic threat from COVID-19.³²

Probability: High



2 Russia Attacks Ukraine

Russia's large military buildup near its border with Ukraine has heightened concerns that Russian President Vladimir Putin sees in his neighbor "unfinished business."³³ Putin has written that Ukraine is not a true nation and that "Russians and Ukrainians were one people—a single whole."³⁴ If Putin, who seems increasingly mindful of shaping his legacy, were to act on such instincts, he has a spectrum of options for weakening Ukraine and thus keeping the country in Russia's sphere of influence and as a dependable buffer against NATO. Ramped-up US/ NATO political and military support for Ukraine or a near confrontation in the Black Sea between Russian and NATO forces may tempt Putin to call the West's bluff. Some observers argue that Russian fears of potential retaliatory measures such as the cancellation of the Russian Nord Stream 2 gas pipeline to Germany and US sanctions against Russian banks would deter Russian military aggression.³⁵ Yet in Putin's mind, passion

to avenge what he sees as US betrayal through NATO expansion in the former Soviet space may override the likely costs of an intervention. In escalating severity, possible Russian intervention scenarios include:

- military threats or aggression to press for negotiated reductions of US/NATO military support for Ukraine;
- military and economic coercion (taking advantage of Europe's dependence on Russian gas, for instance) to forcibly implement the Russian interpretation of the Minsk agreements,³⁶ including a Ukraine that remains neutral between East and West and some degree of autonomy for the Donbas region in a federated Ukraine; and a full-scale Russian military invasion to seize control of Ukraine and/or put in place a Russia-friendly government.

Probability: Medium to High



3 As China Peaks, Its Economy Sputters—Sparking Global Disruptions

For all the fear of a rising China, its weakness may pose the greatest risk. President Xi Jinping's crackdown first on the tech sector and now on the property sector, which accounts for some 29 percent of China's economy, highlights the fragility of the country's economic system. The concern is that energy shortages, demographic decline, declining growth and productivity, and debt (exemplified lately by the beleaguered property giant Evergrande but running much deeper in a country saddled with total debt that is 290 percent of its gross domestic product) reflect an outdated economic model.³⁷ Yet Xi may see needed market reforms promised in 2013, but then rejected, as too difficult politically to implement. Instead, the Chinese Communist Party (CCP) has opted for bolstering state-owned enterprises and control of the private sector—despite private firms serving as a major source of growth and innovation in the past.³⁸ Some national-security analysts fear that Xi may compensate for lower growth with a more aggressive military policy toward Taiwan and beyond in order to shore up the CCP's nationalist legitimacy.³⁹ Yet an economically struggling China could also unravel global stability: China has driven some 30 percent of global growth for the past decade.⁴⁰ As well as being more confrontational, a weak China could thus tank economic growth around the world, while disrupting financial markets and supply chains. The attendant lost wealth and jobs could spark unrest and/or intraparty turmoil in China as well.

Probability: Medium



4 Afghanistan Collapses, and the United States Can't Escape its Consequences

Afghanistan is enduring an unprecedented humanitarian crisis, and possible state collapse looms in 2022. According to the United Nations World Food Program (WFP), twenty-three million Afghans faced imminent starvation before the winter—forecast to be severe—even began.⁴¹ It is difficult for the World Bank and other development agencies to directly assist Afghans due to the country's chaotic payment system and international prohibitions on aiding the Taliban. The United Nations warns that Afghanistan's banking system may be nearing collapse, endangering humanitarian-relief efforts.⁴² The Afghan economy (except the drug trade) is at a standstill, after the US exit cut off some \$8.5 billion a year (40 percent of the country's gross domestic product) and the International Monetary Fund froze some \$9 billion in foreign assets.⁴³ The Taliban is contending with rival jihadist groups such as an affiliate of Islamic State of Iraq and al-Sham, raising the risks of increased terrorist activity around the world—including possible attacks against US interests as well as those of Russia and China. According to the United Nations, there are now at least 2.6 million Afghan refugees—mostly in Iran and Pakistan—and another 3.5 million internally displaced people, and the worsening situation in the country could propel more refugees to Europe.⁴⁴ A collapsing Afghanistan, as an example of failed US democracy-promotion efforts, could also prove costly for the Biden administration's ambitions to lead a global democratic revival.

Probability: High



5 Developing Countries Suffer More Severe Economic Troubles and a Rash of Political Instability

The second-biggest casualty from COVID-19—after the more than five million people who have died from it—is the global middle class. The Pew Research Center estimates that the pandemic-induced recession left 131 million more people in poverty.⁴⁵ Even those who have managed to hang on to the middle class in the developing world are poised to confront spiraling economic insecurity due to the political and economic aftershocks of the pandemic, which will continue to range for some time in many of these countries. India, which has shed 32 percent of its middle and upper-middle classes combined, could finish 2021 with a gross domestic product that's 5.2 percent smaller than it would have been without the pandemic.⁴⁶ Rising inflation in the United States and Europe threatens to further destabilize economies in the developing world at a time when they need to recapture lost growth. If the Federal Reserve and European Central Bank raise interest rates to counter inflation, past patterns suggest that capital will swiftly leave poorer countries for higher returns with less risk in richer countries. These countries would then face

a catch-22: As the economists Rabah Arezki and Jean-Pierre Landau wrote for Project Syndicate, "Policymakers can either let their currencies depreciate, which would fuel inflation, or hike interest rates, which would adversely affect growth and debt sustainability."⁴⁷ The international community will need to inject funds into poorer countries to stabilize their currencies and help them navigate a dangerous period. Without such help, political instability will gather momentum, bringing down several governments.

Probability: High



6 Oil Tops \$100 per Barrel

Predicting boom/bust cycles in the oil market is always hazardous. There are conflicting forecasts, with the US Energy Information Agency foreseeing a drop from a price of eighty-four dollars per barrel of Brent crude oil this fall to sixty-two dollars per barrel by this time next year,⁴⁸ while many private-sector analysts and hedge funds are betting on a prolonged price spike.⁴⁹ The proximate causes of the current price increase are the 2021 surge in demand after a pandemic-driven drop, limited production hikes by the Organization of the Petroleum Exporting Countries (OPEC), and the effects of several years of declining investment in oil and gas. An insightful recent study highlights new risks posed by longer-term structural changes in the energy industry—from inflation, recession, and debt defaults to energy-security concerns—as OPEC and Russian state-owned oil firms dominate investment and production, and thus the geopolitics of oil, amid a protracted global transition to clean energy.⁵⁰

Probability: Medium to High



7 The World Fails to Meet its Climate Goals from the Inconclusive Glasgow Summit

Global carbon emissions have grown by 60 percent since the Kyoto Protocol was signed in 1997, and the climate-change accord from this year's twenty-sixth UN Conference of the Parties (COP26) in Glasgow doesn't assuage concerns about the risks of accelerated climate change or the likelihood of achieving the goal of curbing average temperature rise to less than 2 degrees Celsius above preindustrial levels.⁵¹ Prior to COP26, if all pledges from the 2015 Paris climate deal had been met (few were), global temperatures were still projected to rise 2.7 degrees Celsius by 2100.⁵² World leaders projected a new seriousness at COP26, with its final agreement calling for the "phasing down" of coal and separate agreements aiming to slash deforestation and methane

emissions, establish global rules for carbon trading, and foster US-China climate cooperation.⁵³ Despite this progress, the pledges were all characteristically vague. The International Energy Agency has issued a detailed roadmap for reaching net-zero emissions by 2050, which will require an end to new oil and gas projects by next year—along with a tripling of investment in solar and wind energy to \$4 trillion and a quadrupling of investment in smart grids by the end of this decade.⁵⁴ Such progress is technically possible, but politically highly improbable absent dramatic new action well beyond what was agreed to at COP26.

Probability: High



8 A Bifurcated World Emerges, but It’s Not a Repeat of the Cold War with the Soviets

Washington has fallen in love with the idea of rerunning the Cold War, undoubtedly with the same ending of the West triumphing. Some focus on what’s different between the economically anemic Soviet Union and today’s omnipresent China—a top economy and major high-tech innovator, along with its status as the world’s number-one trading power and capital exporter—should cause the Beltway to rethink the merits of a bifurcated world. The Chinese economy has grown so interdependent with US and Western economies that all would suffer in such a world.⁵⁵ China was America’s largest trading partner for goods last year, at \$559.2 billion, and Wall Street is also getting in on the action, with BlackRock raising \$1 billion in September for China’s first foreign-run mutual fund.⁵⁶

Meanwhile, Chinese leaders are frantically trying to de-Americanize China’s supply chains.⁵⁷ China’s biggest vulnerability is its lack of a high-tech chip industry. Since cutting US supplies would hurt American manufacturing, the Biden administration has been hesitant to hit Beijing there. Should the gloves come off—as some in Washington advocate—it’s unlikely that China will be brought to its knees.⁵⁸ What could instead result is a bifurcated world where we are all poorer and more prone to conflict. US businesses would miss out on new opportunities in China and perhaps elsewhere in Asia. The division would also come in the form of digital blocs, producing a race to the bottom and different standards concerning robotics, quantum computing, artificial intelligence (AI), and bioscience (such as CRISPR gene editing). The notion that Europe would follow the United States down this road is dubious given the dependence of Germany and others on trade with China, twined with the European Union’s preference for using regulation to address Chinese practices it disagrees with rather than decoupling economically from China. In a Cold War with China, happy endings are far from guaranteed.

Probability: Medium



9 Food Insecurity Worsens, Propelled by COVID-19, Climate Change, and Conflict

As we warned last year, a combination of the pandemic, extreme weather, and violent conflict is stoking food insecurity.⁵⁹ Fifteen million more people are now at risk of starvation relative to before the pandemic started in 2019, according to the World Food Program. In November, the WFP warned that forty-five million people are on the brink of famine across forty-three countries, with higher food and transportation costs straining the budgets of families and aid organizations alike.⁶⁰ One of the main drivers of this year’s increase has been the humanitarian catastrophe in Afghanistan, which is now home to the world’s worst food crisis. Over the next decade, the World Bank has said that food systems need a \$300-\$350 billion per year “transformation” to reduce greenhouse-gas emissions and protect the environment while also feeding a world population set to grow to ten billion by 2050.⁶¹

Probability: High



10 More Countries Slip from Their Current Fragile State into Failure

The countries at the top of each year’s Fund for Peace Fragile States Index rarely change.⁶² Yemen, Somalia, and Syria (in that order) reappeared again on its 2021 list under “very high alert,” and many would argue that they have tipped over into state failure.⁶³ Even some of the countries in the next tier of “high alert” are close to if not already experiencing state failure: South Sudan, Democratic Republic of Congo, Central African Republic, Chad, Sudan, and Afghanistan. Worryingly, such large countries as Ethiopia and Nigeria are not too far behind—and their collapse would trigger major regional convulsions. It’s clear that the underlying conditions that we know cause state failure are worsening and metastasizing in these countries. Propelled by increasing drought and water scarcity, a food crisis (see above) is spreading; without vast investment in more capable food systems, we should expect such crises to occur well beyond the highest-alert countries.⁶⁴ Armed conflicts are also becoming increasingly protracted, intense, complex, and dangerous to civilians.⁶⁵ COVID-19 is an added burden, increasing the poverty rate in many poorer countries and pushing debt to record levels.⁶⁶ It’s easy to become inured to doomsaying, but in 2022 the dismal outlook looks warranted.

Probability: Medium to High



11 Western Efforts to Revive the Iran Nuclear Agreement Fail

The Iranian government has issued escalating demands for the United States to ease sanctions and grant assurances prior to Tehran assenting to a new deal to curb its nuclear program, even as the regime increases its nuclear-enrichment efforts.⁶⁷ Israeli cyberattacks on Iranian nuclear facilities—and Iran's response to those activities—are escalating. Congressional pressure is building on President Joe Biden to impose tougher sanctions on Iran and to take action against Iranian sanctions-breaking activities such as oil sales to China. Military action against Iran's nuclear program by the United States or Israel cannot be ruled out. Iran, meanwhile, has the ability to conduct drone attacks against Gulf oil facilities and US military bases—and to use Hezbollah or other surrogates to engage in a shadow war with Israel. If tensions deepen, there's always the chance that miscalculations or inadvertent clashes lead to a major military confrontation with Iran.

Probability: Medium to High



12 US Democracy Further Decays

The coming year is shaping up to be one in which American democracy erodes significantly. Freedom House's 2021 report, which documented a global democratic retreat, highlighted an 11-point decline in its freedom score for the United States over the past decade—putting the country among the roughly two dozen nations with the steepest declines over that period.⁶⁸ The organization cited the January 6 attack on the US Capitol, which sought to overturn the 2020 presidential election based on false claims of election fraud that are still promoted by ex-President Donald Trump and have been adopted by much of the Republican Party. Polls suggest that some 70 percent of Republican voters, and 30 percent of voters overall, believe that Biden was not legitimately elected, despite **all evidence to the contrary**.⁶⁹ As social-media-borne disinformation and conspiracy theories abound, the country's political divide appears to be widening as the 2022 elections approach—with each side seeing the other not as opponents but as enemies. An alarming number of Americans now view violence as acceptable, including nearly a third of Republicans.⁷⁰ Gerrymandering and new election laws in at least nineteen states, some empowering more partisan state legislatures rather than state election officials to determine election results, could tilt outcomes.⁷¹ With the GOP positioned to retake the House of Representatives and possibly the Senate in 2022, America's polarization and sectarian tensions look poised to only increase.⁷²

Probability: High



Top Opportunities

1 World Trade Organization Members Make Needed Reforms

If the Biden administration wants to make good on its rhetoric about upholding an inclusive, rules-based international order, halting economic fragmentation and COVID-19-fueled protectionism should be a priority. That requires fixing a broken World Trade Organization (WTO), which governs as much as 80 percent of global trade.⁷³ Absent the WTO setting rules that allow nations to raise concerns and settle their disputes, the world would drift toward trade restrictions and regional blocs dictated by major economic powers. In a well-received recent speech, US Trade Representative Katherine Tai issued sharp criticisms of the WTO but pledged a US commitment to reforming it.⁷⁴ Such reforms are necessary and doable, starting with a reinvented dispute-settlement mechanism that avoids litigation and boasts an effective oversight board. They should also include transparency on subsidies, new digital-commerce rules, a greater role for climate and labor rights, and trade liberalization focused on specific sectors.

Probability: Medium



2 Researchers Develop a Universal Vaccine against All Coronaviruses

By now, most of us have realized that SARS-CoV-2 is not going away anytime soon. Heading into the third year of living with the virus, we're seeing more waves of infections even in areas where there are relatively high vaccination rates—along with a highly concerning new variant, Omicron. Then there are the hundreds of other COVID-19-type viruses of varying strength in existence, a small minority of which could prove deadly. New research suggests that other animals besides bats could be carriers of SARS-like coronaviruses.⁷⁵ We need a universal vaccine against all coronaviruses, including SARS-CoV-2 variants present and future, and some promising research along these lines is already underway. Scientists at the University of North Carolina's Gillings School of Global Public Health, for example, have been working on just such a vaccine and seen encouraging results with mice.⁷⁶ Their approach is similar to that of the Pfizer and Moderna vaccines, except they merge mRNA from several coronaviruses. Many other scientists are engaged in parallel efforts.⁷⁷ All of this could yield the key to containing the next outbreak. The US government should make this research a national priority and scale it so everyone in the world can benefit from the results.

Probability: Medium



3 World Powers Cooperate on New AI Standards and Regulations

AI applications—from facial recognition to employment screening—are increasingly being deployed across industries and will become ubiquitous during this decade. Yet there are few agreed-upon global rules or standards in this realm. Though AI is a technology dominated by the United States and China, the European Union is seeking to create a regulatory framework that can establish such standards. A draft Artificial Intelligence Act before the EU Parliament and European Commission sets detailed strictures for AI use and commerce based on a hierarchy of risks (with job recruitment, critical infrastructure, and law enforcement among those identified as high risk).⁷⁸ While there is widespread overlap in declarations on AI ethics by the United States, the EU, Japan, and China, common ethical values have not been put into operation. The EU's initiative should spur the United States to forge global AI norms. The new US-EU Trade and Technology Council should prioritize building a transatlantic consensus on these issues, which can lay the groundwork for a broader agreement among the Group of Twenty (G20) nations.

Probability: Low



4 The United States and the EU Forge a Transatlantic Approach to Digital Regulation

The EU is beginning to define its concept of “tech sovereignty” as a means of making the union more competitive. A package of pending legislation mainly targets large US tech firms that the EU sees as “gatekeepers” in setting the terms of data commerce.⁷⁹ This regulatory approach would rein in US companies and change their business models, widening the transatlantic gap on tech regulation. The US Congress should see the EU’s ambitions as an opportunity to move on the United States’ own digital regulations while the Biden administration should prioritize efforts to find common ground with the EU on digital matters. A US-EU consensus would create leverage for establishing global standards on these issues.

Probability: Medium



5 The United States Helps Avoid Another Ukraine Crisis

The growing crisis triggered by Russia’s threatening troop movements against Ukraine should be turned into an opportunity to put relations between Russia and the United States on steadier ground. One step to slow the current momentum toward a dangerous confrontation would be for the United States and European Union to broker talks designed to get Moscow and Kyiv to adhere to an updated Minsk II framework.⁸⁰ The United States should not assume that increasing sanctions on Russia or arms shipments to Ukraine will deter Putin; just as likely, they will goad him into making further incursions against his neighbor before it becomes too costly for him to do so. The conflict in Ukraine can no longer be set aside in Biden’s efforts to stabilize the US-Russia relationship by establishing red lines on cyber warfare and other strategic issues. If Washington finds ways to finally lower tensions over Ukraine, it could open up more opportunities to reduce friction with Moscow—at a time when the United States would rather focus on China.

Probability: Low to Medium



6 China and the United States Reach a Détente

Though media reports portrayed the Biden-Xi summit as merely more words, the nearly four-hour meeting in November appeared to signal a recognition by both leaders that relations between the two superpowers are spinning out of control and toward conflict—at a time when Biden and Xi must also focus on difficult domestic agendas.⁸¹ The summit, as Biden said, was intended to put in place “guardrails” to reduce risk and incrementally create a framework for managing a competitive coexistence between the countries.⁸² The two leaders, in effect, set a mandate from the top to their respective senior officials and bureaucracies to unwind the building confrontation and work through the thorny differences that brought them to the brink. In response, the US and Chinese governments restored senior-level military-to-military talks.⁸³ Perhaps most importantly in light of Beijing’s buildup of its nuclear-weapons arsenal, Xi seemed to reverse China’s stance for more than a decade by moving toward engaging in a nuclear-arms dialogue with the United States—reflecting the fact that new mutual vulnerabilities with regard to nuclear weapons could motivate the two countries to establish new guardrails.⁸⁴ Possible areas for cooperation include shared interests related to trade, climate change, and energy security along with addressing the challenges posed by instability in Afghanistan and the

nuclear programs of Iran and North Korea. It remains unclear whether the US-China relationship will reach a new normal or revert to the downward spiral of distrust characteristic of recent years. But there is now at least an opportunity to test each other's intentions.

Probability: Medium



7 The United States Launches an Asia-Pacific Digital-trade Accord

US Indo-Pacific strategy has a gaping hole on trade. The United States should plug it with a big opportunity: fast-growing digital commerce, which accounted for 17 percent of global retail trade in 2020.⁸⁵ There is a compelling case for a regional agreement that builds on high-quality digital-trade language in the US-Mexico-Canada Agreement, the US-Japan Digital Trade Agreement, and the Trans-Pacific Partnership (before the United States withdrew from the pact). A new type of accord—akin to the Singapore-New Zealand-Chile Digital Economy Partnership Agreement (DEPA), which some officials in the Biden administration see as a model—could pioneer a more inclusive worker- and small business-friendly approach. DEPA takes that tack with provisions on e-invoicing, express shipments, interoperable fintech (e-payments), trusted networks, and AI cooperation.⁸⁶ It's also modular, permitting nations to accede to only parts of the agreement.

Probability: Medium to High



8 The World Seizes Low-hanging Fruit on Climate Change

The COP26 final statement fell short of putting the planet on a path to limit global warming to less than 2 degrees Celsius.⁸⁷ But stopping deforestation, slashing methane emissions by 30 percent, and establishing global carbon-trading rules could all have significant payoffs in greenhouse-gas reductions if those pledges from the climate conference are actually implemented over the next decade. The US-China climate accord also announced in Glasgow could help accelerate those goals by, for example, contributing to a push for a 50 percent methane reduction by 2030. Ramping up US natural-gas exports to China, the world's largest coal consumer, would be the fastest way to phase down growing Chinese coal use. Another useful step would be to add enforcement provisions to the carbon-trading rules delineated at COP26. The G20 could flesh out the conference's vague deforestation pledge by encouraging nations to plant one billion trees by 2025 with the assistance of public-private partnerships. Governments

could give farmers credits for improving their land to better capture carbon. The **bipartisan infrastructure law** recently signed by Biden will retrofit buildings to make them more energy efficient, fund hundreds of thousands of electric-vehicle charging stations, and invest billions of dollars in smart grids so that utilities make more use of renewable energy. These initiatives don't amount to the big-bang climate solutions that many hoped would come out of COP26, but they're not nothing either.

Probability: Medium



9 The United States, China, and Russia Start Cooperating in Space

On November 15, Russia fired a missile to destroy one of its satellites and created more than 1,500 traceable pieces of debris in low-earth orbit, forcing crew members of the International Space Station to take shelter in their spacecrafts in case the station was hit. Moscow claims the missile test was needed because of US plans to upgrade its strategic missile-defense systems.⁸⁸ The United States, China, and Russia have all added debris to space over the years, and they increasingly see space as a key domain for military competition. Hundreds of thousands of pieces of debris are now hurtling through space at around 15,500 miles an hour, threatening human space flight and the nearly five thousand active satellites in orbit.⁸⁹ Our tech-dependent way of life would be imperiled if communications satellites are disabled, and the dangers are only increasing: by one estimate, there could be one hundred thousand satellites in orbit by 2030.⁹⁰ No international system of space-traffic control exists, and there is no independent global body providing data on satellite positioning and trajectories.⁹¹ A good first step would be for the United States, China, and Russia to reach some understandings on their moon missions. The Russians have rejected an invitation to join the NASA-led Artemis project, citing the "departure of our American partners from the principles of cooperation and mutual support," and are instead joining with the Chinese to create a competing International Lunar Research Station.⁹² While it might be too late for all three powers to cooperate on a single lunar initiative, they could derive mutual benefit from sharing their plans and the results of their explorations.

Probability: Low to Medium



10 The United States Takes the Lead in Responding to an Ailing Latin America

Latin America has been hit especially hard by COVID-19. The middle class there could lose its foothold and, in a repeat of the 1920s and 1930s in Europe, turn away from democracy as a result of impoverishment.⁹³ In response, the Biden administration must do more than just increase foreign aid to the region to stop migrant flows. A Bill Clinton-style Free Trade Area of the Americas is likely a bridge too far given the aversion of the Biden administration and Congress to large-scale regional trade agreements. Yet the United States can still play an active role in fostering debt relief, assisting with climate-change adaptation and mitigation, building up an existing high-tech base, and nurturing greater regional cohesion.⁹⁴ While increasingly focused on China and Asia, the United States can't afford to ignore its own region, particularly since many of the day-to-day problems Americans worry about—immigration, the drug trade, climate change (via the destruction of the Amazon rainforest)—have their roots there. Next year's Summit of the Americas is an opportunity for the Biden administration to clarify America's commitment to its neighbors.

Probability: Low to Medium



11 Congress Strikes an Immigration-reform Deal

There's an immigration deal to be had if Republicans and Democrats can get beyond their dug-in positions and move toward a reform package that balances the Republican goal of a more secure border with the Democratic desire for citizenship for the eleven million undocumented immigrants estimated to be in the United States. The last major bipartisan reform effort in 2013 garnered sixty-eight votes in the Senate and would have fulfilled both objectives along with updating immigration criteria to attract more high-skilled immigrants, but House Republican leaders never gave it a vote.⁹⁵ The Build Back Better legislation recently passed by House Democrats provides work authorization—but not citizenship—for up to ten years to an estimated 6.5 million undocumented workers who have lived in the United States since 2011 and prevents the expiration of hundreds of thousands of unused visas.⁹⁶ Even if these measures pass the Senate, which is unlikely, they fall well short of comprehensive immigration reform. Congress should remember that immigration is of growing importance for the future of the country: without new immigrants, the US population is slated to start declining in the 2030s.⁹⁷

Probability: Low



12 The United States Backs the European Union's Strategic Autonomy

It's in the US interest for Europe to take on more responsibilities as a global actor and increase its capabilities. The Biden administration should welcome EU strategic autonomy instead of worrying about whether it will harm NATO.⁹⁸ So long as the threat posed by Russia persists, Central European countries will want a major role for the United States and NATO in European security. Russia is not, however, the only threat to the security of Europe, which also faces challenges in the Middle East and Africa in the form, for example, of state failures or refugee and migrant flows. If the Biden administration is serious about making Asia its primary geopolitical focus, it would benefit from Europe equipping itself to manage these other issues on its own.

The EU defines strategic autonomy as ensuring its “capacity to act autonomously when and where necessary and with partners wherever possible.”⁹⁹ That does not exclude cooperation with the United States, but European leaders want the ability to act independently where it suits their interests—including their exercise of economic power in realms such as technology. The EU has become a norm setter on data privacy and is venturing into new competition rules to curb the power of US tech giants in Europe. To an extent, transatlantic economic differences are nothing new, and debates between Europeans and Americans on an issue-by-issue basis can actually be beneficial for both sides.¹⁰⁰ Yet arguing with Europe over its right to achieve sovereignty will only undermine the alliance over the long run. Being an ally of the United States should not be equated with subservience to Washington. The United States, which helped facilitate European integration after World War II, should continue to be its chief proponent.

Probability: Low to Medium



This article was originally published on the Atlantic Council's website in December 2021, and some of the risks and opportunities outlined here have already begun to unfold.



Six ‘Snow Leopards’ to Watch for in 2022

By Peter Engelke

It’s one of the rarest animals on earth. Nicknamed the “ghost of the mountains,” the legendary snow leopard lives at high altitudes in Central Asia.¹⁰¹ The solitary existence, elusive disposition, and near-perfect camouflage of these beautiful cats make them a rare sighting even for locals and wildlife biologists who are trained to find them. Since it is most often out of sight and therefore out of mind, the snow leopard is the kind of animal that might be forgotten—until it suddenly appears as if out of nowhere.

In the world of global foresight, which is my area of focus at the Atlantic Council, I think of a “snow leopard” as a known but underappreciated—perhaps even forgotten—phenomenon. Because it receives little attention in the press, the snow leopard does not appear significant enough to warrant much scrutiny as a driver of change and shaper of the future. Yet just like the real cat in the wild, the figurative snow leopard is something that could sneak up and vividly remind us that it exists.

The snow leopard is distinct from two other concepts in global foresight. First, it is unlike the “black swan” which is an extreme event with no historical precedent.¹⁰² In contrast to the black swan, the snow leopard does not have to be a single discrete event at all. Although both the snow leopard and the black swan arrive on the scene with great impact, the snow leopard’s arrival is preceded by plenty of information— if we look hard enough— suggesting that it might be just around the corner. Second, the snow leopard overlaps with the concept of “weak signals,” often defined as the early signs of a trend that could alter the future.¹⁰³ Yet it extends beyond early emergent signs to include long-underestimated phenomena.

Consider technological disruption, which we frequently envision as a thunderbolt event but more often unfolds as a gradual, under-the-radar process. Rather than occurring at lightning speed immediately after a technology is invented, disruptive impact tends to become evident during the scaling phase that follows a long, less visible gestation period of testing and experimentation. The COVID-19 vaccines are the exception that proves the rule. They astonished the world for good reason, given the stark contrast between the fast pace of their development under emergency conditions and the typically slow development of other vaccines. Even so, the messenger RNA laboratory research that formed the scientific basis for these vaccines goes back more than thirty years.¹⁰⁴

The intermodal shipping container, a key enabler of the modern global economy, is a good example of a snow leopard.¹⁰⁵ Invented in 1956, the standardized shipping container took more than a decade to prove its worth in terms of dramatically speeding up transshipment processes compared with previous methods and hence significantly lowering costs. It took even longer for this technology to find global scale via the now-ubiquitous complex of specially modified ships, ports, cranes, tractor trailers, and railway cars that have given the container its transformative economic power. The humble shipping container drove the late-twentieth century globalization wave, upending economic sectors and even entire national economies. Barely noticed while it was happening, containerization became one of the most important technologically based disruptions of the past century.

So what snow leopards should you keep your eyes peeled for in 2022 and beyond? Check out the Atlantic Council’s list of six to watch closely in the year ahead.



1 The True Leaders of the Climate Fight – Cities:

Although the recent COP26 conference in Glasgow, Scotland, staged by the United Nations Framework Convention on Climate Change (UNFCCC), produced some promising carbon-reduction pledges, none were binding on the countries that made the commitments.¹⁰⁶ Yet the conference also underscored that a vanguard of climate-conscious governments—subnational governments, to be precise—are taking decisive action. For well over a decade, the world’s largest cities have been organizing to confront a problem that they are particularly vulnerable to, even as they have largely created it (cities account for roughly 70 percent of global carbon emissions).¹⁰⁷ Cities and city associations (C40 Cities is the best-known association) have been among the most consistently vocal and visible actors at the various COP conferences in calling for stringent emissions reductions.¹⁰⁸ Such demands are neither hollow nor hypocritical. The same cities that are demanding bold UNFCCC actions have been busy banning gas- and diesel-powered vehicles from city centers, creating zero-emission bus fleets, crafting green building codes to regulate the carbon that is embodied in the materials used to make buildings (concrete, steel, glass, etc.), building partnerships with major corporations to reduce carbon emissions, and otherwise engaging in the hard work of resilience-focused climate adaptation.¹⁰⁹ In so doing, city governments have positioned themselves at the innovative cutting edge on climate, seeing opportunity rather than heartache in the transition to a zero-carbon world. National governments will always have a critical role to play in countering climate change, but while they receive the most attention they are actually behind the curve.



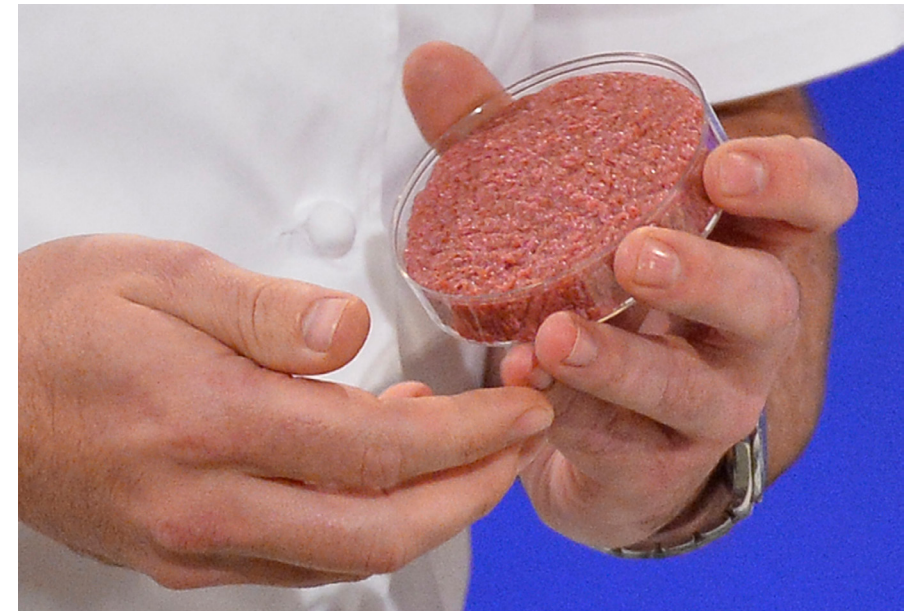
2 The Arrival of Harmless Mosquitos:

In May 2021, the biotech firm Oxitec released genetically engineered mosquitos into the Florida Keys ecosystem—the first experiment of its kind in the United States.¹¹⁰ It was the latest attempt to genetically engineer mosquitos to prevent or at least reduce the incidence of mosquito-borne diseases, which include some of the deadliest diseases on earth: malaria, the Zika and West Nile viruses, dengue, and yellow fever, to name only a few. Oxitec’s method (which is far from the only methodology under development) focuses on reducing the mosquito’s ability to reproduce itself, with each generation yielding fewer female mosquitos (females bite humans, males do not). After decades of laboratory research, the genetic manipulation of mosquitos is now starting to be scaled—and regulators are taking serious notice. In May 2021, the World Health Organization (WHO) issued new guidance for research to “ensure that the study and evaluation of genetically modified mosquitoes as public health tools is safe, ethical and rigorous.”¹¹¹ As the WHO cautions, there are real risks involved in genetic engineering—in this case involving both human health and broader impacts on other species and natural ecosystems. Nonetheless, the hope remains that a new and (tentatively) promising era of communicable disease control might be in the offing.¹¹²



3 The Global, Grassroots Expansion of Innovation:

For decades, Silicon Valley has been at the top of a global tech-innovation pyramid dominated by cities and regions in rich countries.¹¹³ The base of that pyramid has, however, been growing to encompass more places in more countries around the world. Various governments from Kenya to Egypt to Vietnam have been supporting their fledgling tech start-up ecosystems, in some cases for years and more than occasionally with real success.¹¹⁴ Just as important has been grassroots entrepreneurialism enabled by the Internet, mobile phones, digital service platforms, and a widespread “maker” outlook. Across the global south, these entrepreneurs—often women and youth—have created tech-based innovations to address local needs ranging from quick access to micro-scale financing to bespoke material products (“makers” are those interested in manufacturing their own material inventions using tools that they acquire and make themselves).¹¹⁵ In the process, they have helped build and expand start-up ecosystems in cities ranging from Accra, Ghana, to Amman, Jordan—places where governments have wisely encouraged such activity via support and investment.¹¹⁶ Venture capitalists now comb the world looking for investment opportunities, as Silicon Valley tech firms build digital platforms to assist grassroots start-ups in far-flung locations.¹¹⁷ Most importantly, governments, firms, and individuals the world over have come to understand that there is a recipe for uncorking their own innovative potential and, in so doing, joining the ranks of the world’s wealthier countries. All this is a positive development, with more people in more places using tech-based skills and tools to create economic and social opportunity and, in the process, build wealth and reduce poverty.



4 The Dawn of Lab Meat:

It’s not just the stuff of science fiction. Lab meat, not to be confused with plant-based meat substitutes, is grown in huge steel bioreactors using a small number of stem cells taken from a real living animal—a cow, fish, chicken, pig, etc. The result is honest-to-goodness meat, genetically identical to animal meat, albeit grown without the animal itself involved. First introduced to the world a decade ago as a proof of concept (and one that cost exorbitant sums of money), lab meat has since undergone a great deal of study and refinement, not to mention cost reduction. With billions of dollars in venture-capital investment behind it, the nascent industry stands on the cusp of commercial scaling. Why does lab meat matter? Because it has real potential to upend several of the biggest and most important industries in the world: livestock, aquaculture, and commercial fishing. By separating meat production from animal harvesting, lab meat would have enormous impact on land and freshwater use, wildlife, and carbon emissions, in addition to the potentially significant benefits to animal welfare and public health. (Since lab meat is grown in sterile conditions, for example, there is no need for the antibiotics that are used on farms.) Beef, chicken, and fish variants of lab meat now exist, as do factories in Singapore and the United States that are ready to produce tons of product. All that stands in the way of lab meat becoming mainstream is reducing cost a bit more, winning over skeptical consumers, and gaining regulatory approval. Admittedly, all are real hurdles, but few in the industry believe any are insurmountable.¹¹⁸



5 The Fierce Resurgence of Environmentalism:

The history of environmentalism has been marked by long stretches of professional dialogue and elite-centric policy focus punctuated by waves of high-visibility public activism. Environmentalism's most famous and consequential episode of public activism occurred in the late 1960s and early 1970s, during a period that also featured the antiwar and (in the United States) civil-rights movements. Now, in the twenty-first century, there is good reason to expect the resurrection of a mass global environmental movement. Growing popular worry about climate change and its ever more obvious impacts, combined with the slow pace and limited ambition of governmental responses, provide the backdrop for rising fear and frustration. In this climate, the Swedish teenager Greta Thunberg sparked a global youth protest wave through her simple acts of individual demonstration. Other signs of the coming global movement have darker overtones. Extinction Rebellion, a global climate-action network based in the United Kingdom, sees itself as fighting a last-ditch battle for all of humankind. Such phenomena increasingly reflect the Zeitgeist of our times. Findings from a 2021 survey of 10,000 youth across ten countries found that the clear majority (nearly 60 percent) said they were "extremely" or "very" worried about climate change.¹¹⁹ Lest the jaded reader think that the worriers are spoiled rich kids living in rich places, consider that the countries with the highest percentages of young people expressing such concerns were the Philippines (84 percent), India (68 percent), and Brazil (67 percent). The 2020s are ripe for an uprising.



6 The Specter of Hunger-driven Conflict:

In 2020, after many years of decline or at least stasis in their ranks, the number of hungry people in the world spiked by an estimated 118 million to 161 million.¹²⁰ The culprit? The global economic downturn caused by the COVID-19 pandemic. Although the pandemic by itself is unlikely to have a permanent impact on global hunger, this episode points toward chronic vulnerability, especially for the world's poor, regarding the most fundamental of all goods: food.¹²¹ In the decades to come, that vulnerability could get much worse because of a likely squeeze on global food availability. Climate change is set to reduce crop yields even as growing wealth and population increase global demand for food.¹²² For the world's poorest people living in the most climatologically fragile countries, these intersecting trends could produce a nightmare of hunger, desperation, and conflict that could spill over borders and threaten entire regions. The encouraging news is that there are real countermeasures—including public and private investments, on-site planting and harvesting methods, and innovative approaches to soil and forest management—that can make local food systems more just, productive, climate-resilient, and ecologically sound.¹²³ None of these solutions will be easy to implement. But the first step in addressing a snow leopard is recognizing that it exists.

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