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De-Risking Is Not Enough: Tech Denial Toward China Is Needed

For an issue that dominates national security policy discussions in most developed nations, it is remarkable how poorly understood "economic security" is. President Trump declared in 2017 that "economic security is national security," a sweeping formulation that produced policy initiatives ranging from protecting jobs and intellectual property to limiting the spread of technology with military applications, all of which included potential adversaries and longtime allies within their scope.¹ While the Biden administration has repudiated many of its predecessor's other ideas, it has largely continued the general thrust of its policies in this arena. It has continued the aggressive use of economic sanctions against China and expanded their imposition. Weeks into its tenure, the Biden White House announced a 100-day review to identify supply chain vulnerabilities in key sectors of the economy. It has encouraged leading industries to return production to the United States and sought to stimulate and better protect innovation in emerging and critical technologies as well as competitiveness in general.

These policies have triggered fierce debates in Washington and allied capitals about the appropriate level of economic engagement with China, with the consensus being that there should be less of it. Calls for a complete decoupling of the two economies have been widely dismissed and seeming agreement has emerged around focusing on decoupling in high-tech industries, especially those with

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potential military applications. Yet even that limited application has triggered nervousness and a vogue for wider "de-risking," or reducing or eliminating potential vulnerabilities to national economies caused by trade or investments in or from China.²

Whatever the policy is called, the Biden administration insists that it is not pursuing a technology blockade or using trade controls to gain a competitive advantage over China.³ That reticence is consistent with foreign and international economic policy orthodoxy. It's also a mistake. If new and emerging technologies are key to global power, status and leadership in the 21st century, then the US, with its allies and partners, should be doing everything possible to prevail and to ensure that its innovations and resulting products gain the

The stakes to develop new and emerging technologies are far greater than is commonly understood widest possible international use, even if it means reversing decades of policy toward China and economic engagement more generally. Denying China access to the most advanced technologies is a heresy in policy circles, but it is required if the stakes in the competition are what they seem.

This article makes that case, arguing first that the stakes in the competition to develop new and emerging technologies are far greater and more consequential than is commonly understood, and that US adversaries understand this and are acting accordingly. It

then traces the evolution of the technology policy of the US and its partners, assesses the potential downsides of this approach, and concludes that the dangers are worth courting—if the policy is done properly.

The Stakes are Bigger Than You Think

Strategy documents invariably recognize the importance of science and technology to the US way of life, prosperity and security. Those pronouncements tend to be generic, however—when they get specific, advanced technology policies emphasize the role that science and technology play in honing military capabilities, and the accompanying need to develop and maintain a National Security Innovation Base.

That significantly understates the importance of these technologies. Technology has not only been an agent of change within countries, but it has also redistributed power among nations and transformed international relations themselves. It is one of the main factors shaping relations among states, and in many ways science and technology have created the modern international system. Technological capacity—the ability to innovate and then to apply those innovations—is a determinant of global power. The wealth it creates yields status and influence, accelerating the race between countries to be first movers and early adapters. According to the OECD, "technology leadership has long underpinned the economic prosperity and security" of member countries.⁴ If those innovations alone prove insufficient to advance the interests of technologically advanced nations, then those countries will rely on the economic and military power which technology gives them. Plainly, technological superiority equates with geopolitical pre-eminence.

The world is on the brink of yet another industrial revolution, one that will be shaped by new and emerging technologies such as artificial intelligence, biotechnology, quantum computing, and other technologies which, analysts from the McKinsey Global Institute summarize, will "affect billions of consumers, hundreds of millions of workers, and trillions of dollars of economic activity across industries."⁵ That transition—a revolution in many ways—will be the fulcrum upon which global power and the world order will balance. As the National Intelligence Council summarized in its last Global Trends Report, "some technological areas appear to offer the potential for transformative change . . . advances in these areas will combine with other technologies, such as energy storage, to shape societies, economies and perhaps even the nature of power."⁶

Most simply, there are economic advantages that flow from leading the way. Leadership in those new and emerging technology sectors will yield revenues which facilitate a virtuous cycle of investment, research and development, securing dominance in this and future generations of technology. Leading promotes the creation of international standards which lock in that principal position; patent holders can generate substantial revenues from licensing-Qualcomm generated about €5.2 billion from licensing in 2017, more than 20 percent of its profit-and those royalty payments constitute a de facto tax on secondplace competitors, providing an immediate advantage in subsequent research into next-generation technology. Standards also create dependencies, as they encourage the use of related technology throughout a network even as new generations of equipment develop. An integral part of China's Belt and Road Initiative (BRI) is the proliferation of and reliance upon Chinese standards to encourage integration with and dependence on Chinese tech providers such as Huawei, the telecommunications giant. Tech supremacy confers legitimacy on that country's innovation model, reinforcing its soft power.

The green technology industry provides insight into how this future could look. There is consensus that China is already pacing development of these vital technologies, holding "a commanding lead" in manufacturing most lowcarbon technologies. China is responsible for the production of about 90 percent of the world's rare earth elements critical to this transition. It is also responsible for at least 80 percent of all stages in making solar panels, and 60 percent of production of wind turbines and electric-vehicle (EV) batteries—and increasing capacity in both areas. In some niche components, its share is even higher. Economists applaud China's efforts to lower costs and speed the green transition, but the massive subsidies afforded China's solar panel producers have led European competitors to warn that they are being pushed to the brink of bankruptcy by these unfair practices.⁷

This "cornering of the clean tech supply chain" has been compared to Saudi Arabia's power over the oil market and the geopolitical influence it created in the 20th century.⁸ If China's dominance continues and even extends into other new technologies, Beijing would accelerate its own growth and position in the global economy today, while also taking the lion's share of revenues generated in multi-trillion-dollar industries and laying the foundations for future generations of China-created green tech. This would then endow China with enormous soft power as the leader of the energy transition critical to the planet's survival.

What makes some new and emerging technologies different is that they not only generate wealth and prosperity, thereby validating the companies, countries

Some technologies provide potential control over how future decisions are made and social systems that create them. That would be powerful enough. But some, such as AI and quantum computing, also provide insight into and potential control over the processes by which future decisions—no matter how distant—are made. Their effect is not just temporal, but enduring potentially for generations. Because they are capable of tipping the balance of power in a variety of ways, pre-eminence in these new technologies

will determine who makes the rules and how the world works. Failure by the United States and its allies to lead in this competition will undercut their ability to construct or maintain a global order that favors their values and interests. That is what makes these technologies different.

Russian President Vladimir Putin gets it. As early as 2017, he argued that "Artificial intelligence is the future, not only for Russia, but for all humankind. ... Whoever becomes the leader in this sphere will become the ruler of the world."⁹

China's supreme leader Xi Jinping gets it. Xi has said that new technologies artificial intelligence, big data, quantum information and biotechnology—will trigger "earth-shaking changes" that will give China an "important opportunity to promote leapfrog development," and overtake competitors.¹⁰ According to China technology scholar Tai Ming Cheung, Xi's mindset is "a Hobbesian backdrop of a life or death struggle for the economic and strategic renaissance of China ... an intensive zero-sum technological revolution ... to effectively compete for the global commanding heights."¹¹

China scholar Rush Doshi, now serving as deputy senior director for China and Taiwan at the National Security Council, has warned that "Beijing believes that the competition over technology is about more than whose companies will dominate particular markets. It is also about which country will be best positioned to lead the world." While party officials are reticent to speak bluntly, Doshi pointed to "commentaries and think tank pieces [that] seem to suggest that surpassing the United States in high technology would end its era of global leadership, and presumably, usher in one of Chinese leadership."¹²

Consider one sobering scenario for 2033: a world in which China has surpassed the United States as the leading tech power and is typically first to announce breakthrough scientific discoveries and turn them into technologies.¹³ Shenzhen has eclipsed Silicon Valley as the world's leading source of innovation. China has closed the defense gap and can field weaponry as good as—if not better than that of the US. Its technology is preferred across much of the developing world and has been eagerly adopted by autocrats and authoritarians who use it to impose China's politicalmodel. The spread of "smart cities" that rely on its data, algorithms and technology provide Beijing with the ability to manipulate even mundane decisions on the platforms China provides. Imagine the mischief that can be done with—or the intelligence that could be gleaned from—control over computer systems that process visas, for example.

Moreover, the insights afforded by access to all those systems accelerates the development of artificial intelligence in China and extends its reach even further. Domination of China's home market, combined with unfair trading practices abroad, ensures that Chinese companies maintain a competitive advantage over other businesses. This lead facilitates the spread of Chinese-supported international standards across multiple types of technology, favoring the power of the state over individual freedom globally and providing a technological underpinning to an increasingly illiberal international order.

A False Start Toward a Strategy for Success

The Biden administration initially seemed to understand this nightmare. It maintained its predecessor's dark view of China (albeit with a different approach and means of implementation). At the launch of the US-EU Trade and Technology Council (TTC) in 2021—set up to coordinate trans-Atlantic tech policy—US Secretary of Commerce Gina Raimondo framed the TTC as a way to "slow down China's rate of innovation." More bluntly, she went on, "we have to work with our European allies to deny China the most advanced technology so that they can't catch up in critical areas like semiconductors."¹⁴

A Step Forward ...

Last year, National Security Advisor Jake Sullivan embraced that logic, arguing that it was time to revisit guiding principles of trade controls. The traditional focus on maintaining "relative" advantages over competitors in certain key technologies no longer fit for purpose. As he explained, "we previously maintained a 'sliding scale approach' that said we need to stay only a couple of generations ahead. That is not the strategic environment we are in today." Rather, "given the foundational nature of certain technologies, such as advanced logic and memory chips, we must maintain as large of a lead as possible."¹⁵

That thinking was made policy in October 2022 regulations that cut China's access to advanced semiconductor chips, production equipment, and related knowhow.¹⁶ Semiconductors are the defining component of the digital world, the silicon-based enabler of critical technologies like AI and quantum computing; limiting or denying access to that equipment slows, if not prevents, other countries from developing their own capabilities. That executive order, said Gregory Allen, former director of strategy and policy at the Department of Defense Joint Artificial Intelligence Center now at CSIS, demonstrated "an unprecedented degree of government intervention," preventing not just US companies from selling their products to China, but also foreign companies that license US technology, and denying China access to US knowhow through after-sales servicing and consulting. It aimed not only to eliminate access to high-end AI semiconductors, but to keep China from designing those chips domestically by cutting access to US-made chip design software, to prevent China from manufacturing those chips by blocking access to US-built integrated circuit (IC) manufacturing equipment and related expertise, and to keep China from producing that equipment by cutting access to US-built components.¹⁷

CSIS researchers deemed these "sweeping revisions" a "fundamental shift" in the West's export control strategy and "an unprecedented departure from the precepts of the integrated global economy."¹⁸ Allen was blunt in his assessment of the new policy: "The U.S. is actively strangling large segments of the Chinese technology industry – strangling with an intent to kill." At the end of 2022, experts and officials anticipated more such regulations on other new and emerging technologies were on the way.

... Two Steps Back

This year, however, policy seems to be in retreat. Strategic trade controls reverted to their Cold War focus: military applications. In March 2023, Raimondo

explained that the Biden administration was "very focused on being targeted, precise, narrow, and just looking at sophisticated technology China doesn't have, where we're ahead, but they want for their military capacity."¹⁹ Treasury Secretary Janet Yellen went further in April, insisting that use of strategic trade controls is "not designed for us to gain a competitive economic advantage, or stifle China's economic and technological modernization."²⁰

This year, strategic trade controls reverted to their Cold War focus on military applications

In remarks a week later, Sullivan used the "small yard, high fence" metaphor, calling technology con-

trols "tailored measures" and denying that the US was promoting a "technology blockade." He echoed European Union President Ursula von der Leyen, using her language of de-risking rather than decoupling, which he explained, means having resilient, effective supply chains and ensuring that the US cannot be subject to coercion by another country.²¹

In August, the Biden administration issued a long-anticipated Executive Order outlining targets on outward-bound foreign investment in "countries of concern"—China, among others—but its ultimate scope and requirements remain unclear.²² While the restrictions would be unprecedented, the delay in issuing the final order reflects concerted pushback from stakeholders—especially the business sector, which fears loss of access to a huge market—and the ultimate language is expected to be much narrower in scope than originally discussed. Sullivan further confirmed that the US was taking a more moderate approach by commenting on the eve of Commerce Secretary Gina Raimondo's August trip to China that she "will carry with her the message that the United States is not seeking to decouple from China, but rather to de-risk."²³

No Time to Waste

US or Western leadership in new and emerging technologies is not assured. In its survey of critical technologies, the Australian Strategic Policy Institute (ASPI) found that China is positioning itself "as the world's leading science and technology superpower, by establishing a sometimes stunning lead in high-impact research across the majority of critical and emerging technology domains." It put China ahead in 37 of 44 technologies that ASPI tracks, covering crucial technologies in fields that include artificial intelligence, advanced materials, biotechnology, quantum computing, and robotics.²⁴

The Special Competitive Studies Project, a US think tank, was equally alarmed in its interim report released last year, which put the US ahead in five key categories (internet platforms, synthetic biology, biopharmaceuticals, fusion energy, and quantum computing), lagging China in three others (advanced batteries, 5G, and commercial drones), and neck-and-neck over the remaining four (AI, next generation networks, semiconductors, and advanced manufacturing).²⁵

The Way Ahead

As good as the administration's initial steps in 2021-22 were, technology controls are not enough. Measures must also be put in place to promote innovation and adaptation. Industrial policy is required. This is not, contrary to popular opinion, an alien approach for US policymakers. The US has long embraced

Technology controls are not enough, promoting innovation and adaptation is also needed industrial policy, even though it has preferred to believe that its leadership in technology has been the product of unfettered entrepreneurism. The West's victory in the race for technological leadership, the foundation of its eventual triumph in the larger Cold War competition, was very much the result of government intervention. Eric Schmidt, former chairman of Google, noted that "many of Silicon Valley's leaders got their start with grants from the federal government" and included himself on that list, crediting the

National Science Foundation and the Defense Advanced Research Projects Agency for their support.²⁶

Significantly, effective regulation demands greater coordination and communication between governments and communities developing leading-edge technology. This requires a shared understanding of both the state of the art and the threat environment. Too often, the business and security worlds talk past each other on both sets of issues. Government will have to become more attuned to developments in the tech world. This will weigh most heavily on the departments entrusted with fleshing out and enforcing policy, which have not historically attracted top talent.

This conversation between the public and private sectors will be most critical in identifying the technologies that will be subject to this new policy: what deserves support and what demands restriction? Seeing the future is difficult which in part is what makes conversations about new and emerging technologies at times so vague. Breakthroughs and disappointments are inevitable. Policy must be fluid and flexible. Somewhat paradoxically for a strategy focused on tech denial, members of this coalition of like-minded nations must also promote proliferation of their technologies to create momentum so that they can serve as the basis for international standards. This requires a focus on international organizations that set those standards as well as providing the means for other countries to adopt those technologies: development aid and assistance.

That is only part of the reason why the approach today must be multilateral. It cannot succeed if the US and its partners do not work together. The AI-chip regulations imposed in October 2022, for example, would have failed if Japan and the Netherlands hadn't joined with the US to curtail access to semiconductor equipment. To its credit, in October 2023 the US tightened its regulations to align them better with ones imposed by those two countries rather than exploiting gaps in scope to win unilateral competitive advantage.²⁷ Coordination will occur only if US allies and partners in Europe and Asia are confident that they will be part of research efforts to develop new technologies and have access to them when they emerge. Friend-shoring is a must. There also needs to be genuine partnership in the process of creating new trade and investment restrictions. Cooperative efforts ensure international credibility and viability. New venues will be needed to host these conversations. No current political or geographic grouping fits this need.

Is This Really Necessary?

While these measures are necessary to facilitate Western leadership in the race for global leadership, a policy of technology denial will encounter ferocious resistance. The diluted version that currently exists already has. First, critics charge that it runs counter to a half century of international economic policy and undermines a global economic order that the United States has been instrumental in both creating and supporting. The accusation is correct. But policy must adapt to changing circumstances.

The US and its allies have never before encountered an economic competitor like China, one that has both the capability and the determination to exploit that open trading system to rewrite international rules to its advantage and the detriment of the West. As Tai Ming Cheung warns, China pursues international science and technology cooperation "selectively and on its terms ... ensuring that China has a prominent say in the making of the global innovation order is a top priority."²⁸ The Commerce Department's Thea Rozman elaborated, arguing that China's "recent actions follow a history of state-directed intellectual property theft, forced technology transfers, massive state support of industry, and prejudicial regulation – all designed to enable the PRC to not only undercut global

competitors but drive them out of the marketplace. We have seen the PRC do this in a wide range of industries, from batteries to solar to telecommunications."²⁹

China's attention to renewable energy technologies is especially noteworthy. The transition from fossil fuels to renewable energy sources will create new sources of geopolitical power, and first movers will be able to exert that geopolitical power as a result. The country that leads in developing green tech—which will rely on AI and big data, as well as new materials and improved components—

China's attention to renewable energy technologies is especially noteworthy will position itself as the pacesetter in the clean energy transition and its businesses will be ready to dominate that market. Their innovative capacity, the revenues their technologies will generate, and the ability to set standards will, as Meghan O'Sullivan, thendirector of the Geopolitics of Energy Project at Harvard's Kennedy School explained, be "important determinants of geopolitical leverage in the net zero future."³⁰ China has already

cornered the clean tech supply chain, as journalist Edward White noted, and the "rise and rise of China's clean tech companies poses a massive competitive threat to western manufacturing industries, including legacy carmakers and energy giants."³¹ Clearly, business as usual in the form of economic integration is no longer good enough.

A second complaint is that this technology denial strategy would bifurcate the global economy by creating "an economic iron curtain." (If the first argument focuses on the rejection of economic policy orthodoxy and the damage to an institutional order that Washington has been instrumental in establishing and supporting, this hones in on the practical impacts.) Tech denial, the critics warn, undercuts US leverage, and that the West is better off keeping China dependent on its advanced technology.³² Bifurcation is the point of the policy —a feature not a bug—and the feared Chinese reaction is already well underway. In other words, US leverage is shrinking, so it has much less to lose than critics think.

Successive Chinese governments have been intent on developing the country's indigenous technology base. Xi Jinping warned that "Our dependence on core technology is the biggest hidden trouble for us ... Heavy dependence on imported core technology is like building our house on top of someone else's walls: No matter how big and how beautiful it is, it won't remain standing during a storm."³³ He has called on the country to "make up for our shortcomings. ... in sectors and segments related to national security ... build a domestic supply system that is independently controllable and secure and reliable ... and ensure that the economy operates normally in extreme situations."³⁴ This logic

produced "the dual circulation" strategy that relies on China's domestic market to drive growth, and resulting huge investments from state-owned investment funds for a range of technology startups to replace foreign rivals.³⁵ Warnings that the US will lose influence have been anticipated; ironically, Xi aims to reverse that leverage, urging Chinese companies to increase international dependence on them, which will help deter countries from attempting to coerce Beijing while giving China the ability to punish those who consider challenging the PRC.

The charge that China will decouple as a result of US policy lags reality. China is well on its way to decoupling from the West—on its own account. Jens Eskelund, chair of the European Chamber of Commerce in China, cut though the cant in recent comments: "China has been through a de-risking process for at least the past decade, if not longer … We have seen all this talk about self-reliance in China, whether it's tech, agriculture, energy … finance, cyber, digital."³⁶ This course is set. Attempts to moderate the Chinese reaction by, for example, adopting a de-risking policy will have little impact. Not only is China committed to indigenous development, but Beijing sees little difference between de-risking and decoupling. De-risking is considered old wine in a new bottle, "much the same as decoupling" and the two are "intrinsically linked with the fundamental objective still being to 'de-sinicize."³⁷

There are practical objections as well. Engagement with China gives the US insight into the state of the art of Chinese research.³⁸ Technology denial ends that access and could blind the US to its rival's progress. However, this is a red herring, since this is not a call to end all science and technology engagement, and there are questions about the degree to which China reveals its most cutting-edge work. There are also fears that integration of the two research and development communities is so deep that separation into two technology blocs would undercut US innovative capacity.³⁹

Tech denial will undoubtedly risk retaliation—although China is already denying foreign companies access to its domestic market—as well as the weaponization of supply chains. China has shown a readiness to employ coercive measures against countries that challenge its preferred policy outcomes, and Beijing responded to US restrictions on high-end semiconductors with its own export controls on materials critical to chips and other electronics.⁴⁰ But just as China has found workarounds to efforts to cut access to its products and knowhow—evidenced by the newly released Huawei Mate 60 Pro phone—so too will Western companies.⁴¹ That card can only be played once and then production bottlenecks will be eliminated.

A more compelling complaint is that tech denial will increase costs by forcing companies to reroute supply chains and end their access to the Chinese market. The latter complaint doesn't make sense when China is already cutting foreign businesses out of its domestic market. Moreover, the eye-popping numbers—hundreds of billions of dollars—that supposedly quantify the cost of decoupling include many transactions that would continue even under a policy of new and emerging technology denial.

A policy of new and emerging tech denial will further erode Beijing's confidence in market-based economic policy. There is little evidence, however, that China has much faith in markets anymore anyway. The hallmark of national economic policy under Xi has been the steady creep of the state into the private sector through industrial strategies, strengthening state-owned enterprises, the obligation to set up communist party cells in every company with at least three CCP members, and the more general effort to ensure the subordination of all components of Chinese society to the party. The market is a means and not an end for the country's economic decision-makers. Technology denial will reconfirm for the Chinese leadership the need to prioritize national security concerns over economic considerations.⁴² The US and its partners should reach similar conclusions.

The Poorest Will Pay the Highest Price

The most pernicious effects of this policy will be felt in third-party countries. The creation of separate spheres for Western and Chinese technologies will likely lock in dependencies. Since new generations of tech are built upon their predecessors, the countries that provide those foundations will be advantaged as consumers want to upgrade. China may not be cutting edge in many products—and that is going to change—but many of its foreign customers don't need the best; they only need "good enough." As those countries become more prosperous and demand better quality, China will be in a position to supply it—and the political values and systems it supports. The remedy for this problem is better marketing—acknowledging that every customer doesn't need top-line products and then providing them. That also requires a more thoughtful and forward-leaning trade bureaucracy within the West to help make those technologies more affordable to the developing world.

Similarly, the decision to qualify US backing for a free and open trade order will hurt the world's poorest citizens. They have benefited from decisions to spread supply chains and the cheaper products that those networks produce. While a denial policy should focus on the most advanced technologies, cleavers may prove more attractive than scalpels and the bifurcation more extensive than required. The IMF warns that a global economy divided in half would be reduced by 1.5 percent, or more than \$1.4 trillion in annual terms. In Asia—the center of global production networks for electronics, apparel and industrial goods—losses

in percentage terms would be twice as great.⁴³ While those numbers are substantial, the ethical dimension of this policy seems most difficult to stomach. The

poorest should not be victims of a contest for global leadership between the West and China. The impact on the poorest can—and should—be overcome with reinvigorated aid programs which address their needs. If this geopolitical rivalry has the consequences identified here, then assistance that helps the West prevail is a no-brainer.

The pernicious impact on the poorest should be overcome with reinvigorated aid

From the Ground Up

The new and emerging technology race is too close and the stakes too high for business as usual. The US and its allies and partners must embrace a more aggressive and comprehensive policy of new and emerging technology denial toward China to give themselves every advantage in this competition. As a start, those governments have to shed their commitment to free and unfettered trade and investment in advanced technologies. Assumptions that have guided decision-making among policymakers and in boardrooms need to be reexamined and updated for the first time since the end of World War II. The West now faces a genuine economic rival that has different visions of political governance and international order as well as the means to realize them. That rival is not only not committed to the liberal economic order that the US and its partners have developed, but is prepared to continue to exploit it. Beijing's unique model of capitalism successfully blends state and private interests, and the resulting hybrid does not fit well within the prevailing economic paradigm. But it does ensure China's access to opportunities provided by that order without needing to reciprocate.

Repudiating the economic orthodoxy and integration mindset of the last half century will demand clear and convincing explanation. The US and its partners must make the case for this transformation, laying out the rationale for the change and the stakes involved. They must seize the narrative high ground, clearly explaining the reasons for this new approach. They cannot hide behind rhetorical games or loose language to pretend that nothing has changed, nor should they insist that it will be cost free. There will be costs, both direct and indirect, and pushback will be severe, especially among businesses that have become accustomed to decision-making that privatizes profits and socializes security.

In some ways, a policy of tech denial has actually already started. But the US and its allies have been too tentative, too focused on kinetic technologies which

were crucial to the Cold War—as opposed to the new and emerging energy and decision-making technologies integral to tomorrow's contest for global leadership —and resolve is faltering. That is understandable, given the scale of the challenge, but it is time to refocus and stiffen spines. First, the US and its partners

The US should focus on energy and decision-making technologies must recognize the stakes in the technology competition. This concerns far more than tools to sharpen military capabilities. The US and its partners must maintain leadership in new and emerging technologies, particularly those for energy and which facilitate decision-making, a role that will lay the foundation of the global order.

Second, we must rethink our conceptions of international order. Divisions have become too deep and the space for agreement and consensus is shrinking. A single global system that includes all countries is possible with only the lightest, most superficial framework. While it is a troubling referent, it may be time to reexamine the merits of the Cold War era, with its two competing blocs as an operating—and somewhat effective—model of global governance. It is suboptimal, but it did reconcile what were at their root fundamentally incompatible national values and interests then; it may again be necessary now.

Third, the US and its allies must be forthright about what they are doing and why. This is a radical shift in policy and its advocates must identify it as such. Only honest and open acknowledgment will allow Washington to command the high ground and muster consensus at home and abroad, vital prerequisites to this strategy's success.

Notes

- 1. Anne Gearan and Steven Mufson, "Trump sets out national security strategy of 'principled realism' and global competition," *Washington Post*, December 18, 2017, https://www.washingtonpost.com/politics/trump-sets-out-national-security-strategy-of-principled-realism-and-global-competition/2017/12/18/7edcb0be-e412-11e7-ab50-621fe0588340_story.html.
- Speech by President von der Leyen on EU-China Relations to the Mercator Institute for China Studies and the European Policy Center, March 30, 2023, https://ec.europa.eu/ commission/presscorner/detail/en/speech_23_2063.
- US Department of the Treasury, "Remarks by Secretary of the Treasury Janet. L. Yellen on the U.S.-China Relationship at the Johns Hopkins School of Advanced International Studies," April 20, 2023, https://home.treasury.gov/news/press-releases/jy1425.
- 4. OECD Science, Technology and Innovation Outlook 2023, Chapter 2, https://www.oecd-ilibrary.org/sites/f3c247fc-en/index.html?itemId=/content/component/f3c247fc-en.

- James Manyika et al, "Disruptive Technologies: Advances that will transform life, business and the global economy," McKinsey, May 2013, 3, https://www.mckinsey. com/~/media/mckinsey/business%20functions/mckinsey%20digital/our%20insights/ disruptive%20technologies/mgi_disruptive_technologies_executive_summary_may2013. pdf.
- National Intelligence Council, "Global Trends 2040: A More Contested World," March 2021, https://www.dni.gov/index.php/gt2040-home/gt2040-structural-forces/technology.
- Victor Jack. "Solar sector pushes for €100M EU bailout as China pushes it to the brink," *Politico EU*, September 11, 2023, https://www.politico.eu/article/eu-solar-sector-bailoutchina-competition/.
- 8. Edward White, "How China cornered the market for green tech," *Financial Times*, August 8, 2023, https://www.ft.com/content/6d2ed4d3-c6d3-4dbd-8566-3b0df9e9c5c6.
- "Whoever leads in AI will rule the world: Putin to Russian children on Knowledge Day," RT, September 1, 2017, https://www.rt.com/news/401731-ai-rule-world-putin/.
- "Xi Jinping: Follow the trend of the times and achieve common development," *People's Daily*, July 26, 2018, http://cpc.people.com.cn/n1/2018/0726/c64094-30170246.html, in Rush Doshi, "The US, China and the contest for the Fourth Industrial Revolution," Brookings, July 31, 2020, https://www.brookings.edu/articles/the-united-states-china-and-the-contest-for-the-fourth-industrial-revolution/.
- Tai Ming Cheung, "The Rise of the Chinese Techno-Security State and its Strategic Implications," in *Technological Innovation and Security: The Impact on the Strategic Environment in East Asia*, Japan National Institute for Defense Studies, September 2022, 52, http://www.nids.mod.go.jp/event/proceedings/symposium/pdf/2021/e_03.pdf.
- 12. Doshi, "The US, China and the contest for the Fourth Industrial Revolution."
- Peter Engelke and Emily Weinstein, "Global Strategy 2023: Winning the tech race with China," Atlantic Council, June 27, 2023, https://www.atlanticcouncil.org/content-series/ atlantic-council-strategy-paper-series/global-strategy-2023-winning-the-tech-race-withchina/.
- Amanda Macias and Kayla Tasche, "U.S. needs to work with Europe to slow China's innovation rate, Raimondo says," CNBC, September 28, 2021, https://www.cnbc.com/ 2021/09/28/us-needs-to-work-with-europe-to-slow-chinas-innovation-rate-raimondosays.html.
- The White House, "Remarks by National Security Advisor Jake Sullivan at the Special Competitive Studies Project Global Emerging Technologies Summit," September 16, 2022, https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/09/16/remarksby-national-security-advisor-jake-sullivan-at-the-special-competitive-studies-projectglobal-emerging-technologies-summit/.
- 16. Bureau of Industry and Security, Dept. of Commerce, "Commerce Implements New Export Controls on Advanced Computing and Semiconductor Manufacturing Items to the People's Republic of China (PRC)," October 7, 2022, https://www.bis.doc.gov/ index.php/documents/about-bis/newsroom/press-releases/3158-2022-10-07-bis-pressrelease-advanced-computing-and-semiconductor-manufacturing-controls-final/file.
- 17. Greg Allen, "Choking off China's access to the future of AI," CSIS, October 11, 2022, https://www.csis.org/analysis/choking-chinas-access-future-ai.
- Suvai Shivakumar, et al, "A Seismic Shift: The New U.S. Semiconductor Export Controls and the Implications for U.S. Firms, Allies and the Innovation Ecosystem," CSIS,

November 14, 2022, https://www.csis.org/analysis/seismic-shift-new-us-semiconductor-export-controls-and-implications-us-firms-allies-and.

- "U.S. Commerce Secretary on tech race: 'We want to stay ahead of China," Yahoo Finance, March 1, 2023, https://finance.yahoo.com/video/commerce-secretary-techrace-want-152227064.html?guccounter=1.
- "Remarks by Secretary of the Treasury Janet. L. Yellen on the U.S.-China Relationship at the Johns Hopkins School of Advanced International Studies," April 20, 2023, https:// home.treasury.gov/news/press-releases/jy1425.
- "The Biden Administration's International Economic Agenda: A Conversation with National Security Advisor Jake Sullivan," Brookings Institution, April 27, 2023, https://www.brookings.edu/wp-content/uploads/2023/04/es_20230427_sullivan_intl_ economic_agenda_transcript.pdf.
- 22. The White House, "Executive Order On Addressing United States Investments in Certain National Security Technologies and Products in Countries of Concern," August 8, 2023, https://www.whitehouse.gov/briefing-room/presidential-actions/2023/08/09/executive-order-on-addressing-united-states-investments-in-certain-national-security-technologies-and-products-in-countries-of-concern/.
- Haley Bull, "U.S.-China relations unsteady: Commerce Secretary Raimondo heads to Beijing," ABC Action News, August 22, 2023, https://www.abcactionnews.com/us-chinarelations-unsteady-commerce-sec-raimondo-heads-to-beijing#:~:text=%22Secretary% 20Raimondo%20will%20carry%20with,economic%20relationship%20and%20our% 20trade.
- 24. Australia Strategic Policy Institute, "ASPI's Critical Technology Tracker AUKUS Updates," March 2, 2023, https://www.aspi.org.au/report/critical-technology-tracker.
- Special Competitive Studies Project, "Platforms: Interim Panel Report," November 2022, https://www.scsp.ai/wp-content/uploads/2023/01/Platforms-Panel-IPR.pdf.
- Eric Schmidt "I used to run Google. Silicon Valley could lose to China," New York Times, February 27, 2020, https://www.nytimes.com/2020/02/27/opinion/eric-schmidt-ai-china. html.
- Dylan Patel et al, "Wafer Wars: Deciphering Latest Restrictions on AI and Semiconductor Manufacturing," SemiAnalysis Substance, October 24, 2023, https://www. semianalysis.com/p/wafer-wars-deciphering-latest-restrictions.
- 28. Cheung "The Rise of the Chinese Techno-Security State and its Strategic Implications."
- Thea Rozman Kendler, "The Biden Administration's PRC Strategy," Testimony before the House Select Committee on the Chinese Communist Party, July 20, 2023, https:// selectcommitteeontheccp.house.gov/sites/evo-subsites/selectcommitteeontheccp.house. gov/files/evo-media-document/scc-hearing-testimony-as-kendler.pdf.
- Meghan O'Sullivan, "The Geopolitical Implications of the Energy Transition," The Institute of International and European Affairs, December 14, 2021, https://www.iiea.com/ blog/the-geopolitical-implications-of-the-energy-transition.
- Edward White, "How China cornered the market for clean tech," *Financial Times*, August 8, 2023, https://www.ft.com/content/6d2ed4d3-c6d3-4dbd-8566-3b0df9e9c5c6.
- Paul Scharre, "Decoupling wastes U.S. leverage on China," Foreign Policy, January 12, 2023, https://foreignpolicy.com/2023/01/13/china-decoupling-chips-america/.
- "Core technology depends on one's own efforts: President Xi," People's Daily, March 15, 2023, http://en.people.cn/n3/2018/0419/c90000-9451186.html.

- Xi Jinping, "Major Issues Concerning China's Strategies for Mid- to Long-term Economic and Social Development," *Interpret CSIS*, October 31, 2020, https://interpret.csis.org/ translations/major-issues-concerning-chinas-strategies-for-mid-to-long-term-economicand-social-development/.
- Yu Yongdong, "China's response to decoupling," China-US Focus, July 5, 2023, https:// www.chinausfocus.com/finance-economy/chinas-response-to-decoupling-24729; Eleanor Olcott and Anna Gross, "US 'blockade' set to turbocharge Chinese chip development," *Financial Times*, September 3, 2022, https://www.ft.com/content/ebcac5e4-f45d-418fa617-95f1a944bc73.
- Stuart Lau, "Russia wants body armor, China supplies it," *Politico EU*, August 27, 2023, https://www.politico.eu/newsletter/china-watcher/russia-wants-body-armor-china-suppliesit/.
- 37. Zhong Feitang, Chinese Academy of Social Sciences, in "De-risking as viewed from China; Old wine in a new bottle," Thomas Des Garets Geddes, July 12, 2023, https:// www.sinification.com/p/de-risking-as-viewed-from-china?utm_source=profile&utm_ medium=reader2.
- Megan Hogan and Gary Hufbauer, "Deepening Economic Confrontation between the United States and China," Japan Spotlight, May/June 2023.
- John Lee, "Decoupling from China: Cutting the Gordian Knot," Lowy Institute, November 9, 2018, https://www.lowyinstitute.org/the-interpreter/decoupling-china-cutting-gordian-knot.
- 40. "China restricts exports of high-tech metals in a slap at Washington ahead of Yellen's visit," Associated Press, July 4, 2023, https://apnews.com/article/china-united-states-technologygermanium-gallium-aa6bffcb62ff95d7ae562da58139fe71?utm_source=Center±for±Security ±and±Emerging±Technology&utm_campaign=5a4b19e6d7-Newsletter_2023_07_13_01_ 09&utm_medium=email&utm_term=0_-5a4b19e6d7-%5BLIST_EMAIL_ID%5D.
- "TechInsights finds SMIC 7nm (N+2) in Huawei Mate 60 Pro," TechInsights, https:// www.techinsights.com/blog/techinsights-finds-smic-7nm-n2-huawei-mate-60-pro.
- Darren Lim and Victor Ferguson, "Huawei and the decoupling dilemma," Lowy Interpreter, May 28, 2019, https://www.lowyinstitute.org/the-interpreter/huaweidecoupling-dilemma.
- David Lynch, "U.S.-China rivalry risks splintering global economy, IMF chief warns," Washington Post, November 12, 2022, https://www.washingtonpost.com/business/2022/ 11/12/us-china-rivalry-risks-splintering-global-economy-imf-chief-warns/.