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LEADING THE GLOBAL RACE TO ZERO EMISSIONS

A New China-U.S. Climate Agenda

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Foreword

Chen Dongxiao, President of SIIS

The 2020 Climate Ambition Summit envisioned a healthy, resilient, zero-carbon recovery future for the Earth.¹ The international community is now acutely aware of the negative global impact of climate change thanks to the continued scientific inquiry and updated conclusions by the Intergovernmental Panel on Climate Change (IPCC) over the years. At the recent Climate Ambition Summit in mid-December 2020, after highlighting the devastating consequences of major climate events, UN Secretary-General António Guterres called on “all leaders worldwide to declare a state of climate emergency in their countries.” Open debates on climate change and human security at the UN Security Council have also called attention to the growing climate threat and the urgency of climate emergency declaration. In its fifth assessment report, the IPCC underscored the severity of climate change from a human-security perspective, marking a new stage in our understanding of a human-induced “severe, widespread, and irreversible” crisis.

Efforts to advance global climate agendas won’t go far without China and the United States leading the way, given the two major powers’ sheer economic size, global influence, and contributions to greenhouse gas emissions. In November 2014, in releasing a Joint Announcement on Climate Change endorsed by President Xi Jinping and then President Barack Obama, Beijing and Washington set an example of great power coordination in the lead-up to the conclusion of the negotiations over the Paris Agreement.

A growing consensus is that China and the United States share common interests in promoting a global transition toward a cleaner, low-carbon, and

¹ <https://www.climateambitions summit2020.org/>.

environmentally-sustainable future. China-U.S. climate cooperation may also encourage other major carbon emitters to shoulder greater international responsibilities and help advance a global low-carbon agenda.

This task force at the Shanghai Institutes for International Studies, joined by leading Chinese experts on climate science and policy, previews the Biden administration's climate and energy policies, analyzes the state and impact of China-U.S. interactions in climate governance and energy transition, and presents a set of policy recommendations on how to build trust and increase cooperation between the world's largest economies and carbon emitters.

The report highlights a number of major changes and initiatives in the Biden administration's climate policy, including transitioning toward a zero-carbon economy, bolstering U.S. climate leadership, promoting an employment-boosting green recovery, setting the 1.5°C temperature rise target with the European Union, achieving zero emission by 2050, and convening a Climate Summit on April 22.

Washington's green recovery-centered climate plan will not go far without advancing international cooperation in industrial restructuring, infrastructure investment, emerging key resource development, and market demand. Likewise, Beijing's ambitious goals of peaking carbon dioxide emissions by 2030 and achieving carbon neutrality by 2060 will also be difficult to attain if it cannot accelerate green economic growth at home and shoulder the joint leadership of climate governance abroad. In this context, the China-U.S. climate cooperation and joint efforts toward carbon neutrality could serve as an icebreaker for the current frosty bilateral relationship. An important step in the right direction is the decision to set up a joint working group on climate change during the recent China-U.S. high-level strategic dialogue in Anchorage, Alaska, which reflects the converging views of top Chinese and U.S. decision-

makers on the urgency and desirability of bilateral climate coordination.

The report also emphasizes that, under current circumstances, China-U.S. climate cooperation still faces multiple restrictions and setbacks both at the domestic venue and international level. First is to identify climate cooperation as a priority on both countries' domestic agendas. China and the U.S. both face pressing responsibilities to combat the spread of disease and economic recessions in the context of the COVID-19 pandemic, energy-food-water security challenges, etc. along with the climate crisis. The public health crisis, economic downturn and climate changes all test the respective governance capacities of the two governments. Second is to mitigate resource shortages in the field of international climate cooperation. Global climate governance has long faced public goods deficit, especially climate financing deficits; financial hardships brought unto various countries by the COVID-19 pandemic has put on even more of a strain. Third is to obviate the disturbances of the current U.S. containment policy toward China over the bilateral climate collaboration. The U.S. government perceives China as its biggest strategic competitor. This deeply-rooted "Thucydides Trap" mentality and geopolitical mindset may well hold the climate and energy-transitioning cooperation as hostage to relative gains or even a zero-sum game. This exacerbates dilemma of collective actions in the realm of global climate governance. Last but not least is to relieve the U.S. domestic hindrance to climate actions, such as conflicts of various interest groups, tide of anti-intellectualism and unilateral behaviors now prevalent in the climate skeptics. The recent U.S. actions at the carbon border adjustment mechanism (CBAM) conflict with the WTO regulations, thus obstructing the process of global climate governance.

Based on the above analysis, the report aims to promote bilateral cooperation in climate governance, conversion to renewable energy, economic growth and social development, and outlines multifaceted advisory for China-U.S.

collaboration. First, to give play to head-of-state diplomacy and summit diplomacy as strategic pinpoints of China-U.S. climate cooperation. Second, to focus on climate adaptability, low-carbon technology, carbon neutrality and other emerging fields as key grounds for intellectual sharing and collaborations of substance, so as to form a competitive but healthy relationship. Third is to expedite the re-initiation of scientific and people-to-people dialogues in the fields of climate and reduced carbon emissions. Fourth is to deepen low-carbon mechanisms for cooperation at regional levels, i.e. to focus on city alliances, industrial parks, market supply and demand as well as middle-class needs, to push for regional economic and energy transformation. Fifth is to jointly strengthen cooperation in carbon market building and climate financing mechanism, i.e. carbon futures, and carbon Pratt & Whitney and various finance tools. Sixth is to expand China-U.S. investment channels, to use green finance to incentivize low-carbon innovations.

The authors of this report profess in climate change and environmental governance. The questions posed by them reflect de facto challenges facing both China and the U.S. in climate change and energy transformation. We believe that this report and the advice concluded have significant referential value to climate governance, toward building bilateral trust in the field of environmental and climatic issues, pushing for energy transformation and socioeconomic development, leading global climate governance, and fulfilling the goal of zero carbon emissions.

Executive Summary

There has been a growing scientific consensus since the beginning of the new century that climate change is becoming a global crisis. At the recent Climate Ambition Summit in mid-December 2020, after highlighting the devastating impacts of major climate events on humankind and the environment, UN Secretary-General António Guterres called on “all leaders worldwide to declare a state of climate emergency in their countries.” Open debates on climate change and human security at the UN Security Council have also called attention to the growing climate threat and the urgency of climate emergency declaration. In its fifth assessment report, the Intergovernmental Panel on Climate Change (IPCC) underscored the severity of climate change from a human security perspective, marking a new stage in our understanding of a human-induced “severe, widespread, and irreversible” crisis. The United Nations have repeatedly urged signatories to the Paris Agreement to update their Intended Nationally Determined Contributions (INDC) to achieve carbon neutrality at an early date, and encouraged governments, enterprises, and the civil society to be contributors to a global zero-carbon economy.

Major economies such as China, the European Union, the United States, and Japan have all embarked on socioeconomic transitions toward zero-carbon economies or carbon neutrality and are searching for new models of climate cooperation to speed up the process. An increasing number of investors have turned their eyes from Europe and North America to China and other developing countries where low-carbon technology centers are emerging, fueling the global renewable energy sector. As the world’s two largest economies and leading emitters, China and the United States are exploring a new leadership model for global climate governance to help better fulfill their great power responsibilities.

This report reviews major achievements of China-U.S. climate cooperation during the Obama administration, highlights the importance of a new climate leadership model driven by shared interests and objectives, identifies possible challenges and constraints, and makes several policy recommendations on further strengthening bilateral climate collaboration.

Global Low-Carbon Transition: Where are China and the United States?

Global environmental protection and the development of a low-carbon economy entail closer China-U.S. climate cooperation. Driven by advancing science and technology, the global low-carbon transition involves major shifts in social values and structures in both developing and developed nations. The key to this global transition, as Chinese and American leaders see it, is clean energy innovation, an area expected to witness growing amounts for investment, greater industrial transformation, and accelerating technological breakthroughs.

Efforts to advance global climate agendas won't go far without China and the United States leading the way, given the two great powers' sheer economic size, global influence, and contribution to greenhouse gas emissions. As the three joint presidential statements during the Obama administration had shown, it was the top leaders' strong political consensus and forceful follow-up measures at the working level that had been driving the global concerted efforts that culminated in the Paris climate deal. Resolutions passed at the Lima Climate Change Conference in December 2014 adopted a notion used in the U.S.-China Joint Announcement on Climate Change that acknowledged "common but differentiated responsibilities in light of different national circumstances." The second joint presidential statement was released three months before the adoption of the Paris Agreement, injecting fresh impetus to the final sprint in the marathon negotiations. Half a year later, the third joint statement, adopted on the eve of the Paris deal's opening for signature, committed Beijing and Washington to signing the agreement on day one and follow-up measures that would advance worldwide implementation of the global climate blueprint.

China-U.S. climate cooperation suffered major setbacks during the Trump administration, an avid climate skeptic who, touting U.S. extraordinary energy abundance, pushed a nationalist energy policy and pursued U.S. global energy dominance by pulling out of the Paris Agreement, terminating U.S. contributions to the Green Climate Fund, and dismantling the Interagency Working Group on Social Cost of Greenhouse Gases. In seeking energy independence and dominance for the United States, the Trump administration had hampered the global effort to tackle climate change through financial, technological, and industrial cooperation. Amid these dramatic policy reversals, subnational and nongovernmental cooperation, such as those between enterprises and scientists, moved forward nonetheless. Without U.S. participation, Beijing and Brussels remained committed to their determined contributions in the Paris Agreement and advanced collaborative programs on clean energy.

Beijing and Washington have common interests in transitioning the global economy toward a cleaner, low-carbon, and more effective model. In fact, implementation of their respective low-carbon strategies is underway and will accelerate over the years to come. Clean energy is expected to take a larger share of both nations' energy mix. According to statistics of the International Energy Agency and British Petroleum Company, China and the United States consumed one-quarter and 16 percent of the world's total energy and contribute 17 percent and 24 percent of the global GDP in 2019, respectively. New energy consumption, including wind, solar, hydro, and nuclear, reached 20.05 EJ (in the case of China) and 13.69 EJ (in the United States), accounting for 15.4 percent and 16.3 percent of total energy consumption in both countries. China-U.S. climate cooperation may help increase low-carbon productivity and competitiveness of both countries. For example, China's low-carbon products have brought down the price of renewable energy-based goods on the U.S.

market. China's energy mix is still unbalanced with 70 percent of electricity generation depending on coal burning, while the United States has reduced its coal dependence from 60 percent in the 1990s to today's 32 percent thanks to the vigorous emission-reducing efforts during the Obama years.² Technological cooperation highlighted in the joint presidential statements could help Beijing further improve its energy mix and set low-carbon standards for both countries and the world at large.

China-U.S. climate collaboration may also help change the EU-dominated low-carbon narratives. When it comes to international carbon trading under the Kyoto Protocol, the European Union has long played the leadership role in environmental protection and low-carbon economy by defining the terms of project approval, measures to limit and/or reduce emissions of greenhouse gases, and methodologies for estimating anthropogenic emissions. To push back on the EU's growing role in carbon trade and finance, in the 2016 joint presidential statement, Beijing and Washington promoted a "global market-based measure for addressing greenhouse gas emissions from international aviation at the International Civil Aviation Organization Assembly," which was regarded as a rebuke of the EU's unilateral aviation tax. Going forward, China, the United States, the EU, and other major economies are expected to have a more equal say in global stocktake, carbon measurement, reporting and verification (MRV), and carbon trade and finance.

² IEA, Energy Technology Perspective 2020. <https://www.iea.org/reports/energy-technology-perspectives-2020>
BP, Energy Outlook: 2020 Edition. https://www.bp.com/zh_cn/china/home/news/reports/news-09-14.html

A New China-U.S. Agenda for Carbon Neutrality

Washington's Flip-flops

As the world's most developed industrial power, the United States plays an irreplaceable role in international climate negotiations and governance. The development and deployment of clean energy may provide a new engine of economic growth by reducing U.S. dependence on oil and natural gas and increase U.S. energy security. Since the dawn of the new century, Washington has formulated a number of comprehensive energy strategies whose focus has increasingly turned to cleaner and decarbonized sources, allowing the United States to play a larger role in global climate governance. The Obama years have been regarded as the golden age of bilateral climate cooperation when high-level consensus and concerted actions helped the two largest emitters lead global mitigation and adaptation efforts. In stark contrast, bilateral climate talks had come to a halt during the Trump administration as Washington bolstered its dominant position on the global market by seeking greater independence and diversification.

Merely seven weeks into the Biden presidency, the new administration seems to have offered reason for optimism with the issuance of six climate-related presidential decrees focusing on a USD\$2 trillion clean energy transition program that is expected to boost local economic growth and create millions of new jobs. To be more specific, President Biden's climate agenda relies on three lines of effort. First, the United States will reclaim its climate leadership role through forceful domestic climate actions, for example, rejoining the Paris Agreement, updating the Clean Air Act, and reversing Trump's regressive climate policies through legislative review. Second, President Biden has put forward the most sweeping climate agenda in U.S. history, covering most

aspects of American economic and social life, from infrastructure and industrial automation to clean automobiles to rail transportation, from energy efficient buildings to clean energy innovation to climate-adaptive agriculture, and from environmental justice to green digitalization to carbon reduction incentives. Third, the Biden administration focuses on the key domains of future global economic competition such as clean energy, clean transportation, clean industrial processes, and clean materials. It has launched an Advanced Research Projects Agency-Climate (ARPA-C) to promote the deployment of game-changing technologies such as battery storage, negative emissions, next-generation construction materials, renewable hydrogen, and advanced nuclear energy.³

Beijing's Unwavering Climate Commitments

The impact of climate change also ripples across Chinese society and will only grow as time passes, requiring a holistic approach addressing the crisis' full implications for China's development and security. As President Xi Jinping put it to then U.S. Secretary of State John Kerry in their February 2014 meeting, regarding China's response to climate change, "it's not that anyone asks us to do it, but we ourselves take the initiative to do it. We have taken many measures, and will continue to do so in the future."

3 Paris Climate Agreement: <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement/>

Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis: <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/>

Executive Order on Tackling the Climate Crisis at Home and Abroad: <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

Remarks by President Biden Before Signing Executive Actions on Tackling Climate Change, Creating Jobs, and Restoring Scientific Integrity: <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/01/27/remarks-by-president-biden-before-signing-executive-actions-on-tackling-climate-change-creating-jobs-and-restoring-scientific-integrity/>

Executive Order on Rebuilding and Enhancing Programs to Resettle Refugees and Planning for the Impact of Climate Change on Migration: <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/04/executive-order-on-rebuilding-and-enhancing-programs-to-resettle-refugees-and-planning-for-the-impact-of-climate-change-on-migration/>

Biden-Harris Administration Launches American Innovation Effort to Create Jobs and Tackle the Climate Crisis: <https://www.whitehouse.gov/briefing-room/statements-releases/2021/02/11/biden-harris-administration-launches-american-innovation-effort-to-create-jobs-and-tackle-the-climate-crisis/>

China submitted a progress report on its nationally determined contributions in late June 2015, entitled “Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions.” The Communist Party’s 19th congress report makes it clear that “China has become an important participant, contributor, and torchbearer in the global endeavor for ecological civilization.”⁴ In a speech at the UN’s Geneva office, President Xi emphasized that “The Paris Agreement is a milestone in the history of climate governance. We must ensure this endeavor is not derailed. All parties should work together to implement the Paris Agreement. China will continue to take steps to tackle climate change and fully honor its obligations.”⁵ At a domestic environmental protection conference, President Xi declared that going forward Beijing would “work with the rest of the world to build up a global climate governance architecture that is more equal, just, and mutually beneficial.”⁶ At the general debate of the 75th session of the UN General Assembly, President Xi pledged to scale up China’s Intended Nationally Determined Contributions by adopting more vigorous policies and measures and have CO2 emissions peak before 2030 and achieve carbon neutrality before 2060.”⁷ In addition, he announced at the 2020 Climate Ambition Summit that “China will lower its carbon dioxide emissions per unit of GDP by over 65 percent from the 2005 level, increase the share of non-fossil fuels in primary energy consumption to around 25 percent, increase the forest stock volume by 6 billion cubic meters from the 2005 level, and bring its total installed capacity of wind and solar power to over 1.2 billion kilowatts.”⁸

4 人民网：习近平在中国共产党第十九次全国代表大会上作报告。

<http://cpc.people.com.cn/n1/2017/1028/c64094-29613660.html>

5 人民网：共同构建人类命运共同体。 <http://politics.people.com.cn/n1/2021/0101/c1024-31986598.html>

6 中华人民共和国中央人民政府：习近平出席全国生态环境保护大会并发表重要讲话。

http://www.gov.cn/xinwen/2018-05/19/content_5292116.htm

7 人民网：习近平在第七十五届联合国大会一般性辩论上发表重要讲话。

<http://cpc.people.com.cn/n1/2020/0923/c64094-31871240.html>

8 人民网：习近平在气候雄心峰会上发表重要讲话。 <http://politics.people.com.cn/n1/2020/1212/c1024-31964407.html>

Climate Cooperation: Complementarity and Mutual Benefits

The Biden administration's green recovery-centered climate plan will not go far without Chinese cooperation in industrial restructuring, infrastructure investment, new resource development, and market expansion. Beijing's ambitious goals of peaking carbon dioxide emissions by 2030 and achieving carbon neutrality by 2060 will also be difficult to attain if it cannot secure U.S. technological cooperation in clean transportation, hydrogen fuel, and energy storage. Joint implementation of the Paris Agreement and cooperation in carbon neutrality could serve as an icebreaker for the current frosty bilateral relationship, and rebuilding top-level political consensus and trust on climate emergency should be a top policy priority.

Firstly, putting up a cooperative leadership framework for climate cooperation. Building on the achievements made during the Obama administration, Beijing and Washington should address the leadership deficit amid growing climate threats by reviving the G-2 model launched at the Copenhagen climate conference in 2009. In the Anchorage China-U.S. high-level strategic dialogue in March 2021, both countries have been committed to enhancing communication and cooperation in the field of climate change and have decided to establish a joint working group in this regard.⁹ China and the United States must also lead the global efforts to promote low-carbon industries and economies by encouraging positive competition and goodwill cooperation among businesses. As the United States has rejoined the Paris Agreement, Beijing and Washington should join hands once again to advance the strict enforcement of the global deal by facilitating the implementation of the Global Stocktake mechanism and updating of the nationally determined

⁹ Xinhua Net. Xi speaks with Biden on phone. February 11, 2021. http://www.xinhuanet.com/world/2021-03/20/c_1127233467.htm

Xinhua Net. China, U.S. to establish joint working group on climate change: Chinese delegation. March 20, 2021. http://www.xinhuanet.com/english/2021-03/20/c_139823644.htm

contributions.

Secondly, making global adaptive governance an area of robust climate diplomacy. Beijing and Washington share common responsibilities for improving systematic and adaptive governance amid an intensifying climate crisis. In this regard, the two nations should strengthen cooperation in such areas as global coastal protection, environmental migration management, climate resilient cities, water-energy-food (WEF) nexus, climate disaster early-warning platforms, and climate loss and damage responsibility and liability. In 2021, a year of impact when a number of important conferences on biological diversity, climate action, and desertification will take place, Beijing should consider promoting “nature-based solutions” in its diplomacy for addressing broader environmental and climate issues.

Thirdly, advocating Just Transition to tackle economic, climate, and social woes in both countries. The low-carbon transition has proven to be a costly and painful process for some sectors, like chemicals and traditional energy industries, shutting down thousands of factories and leaving millions out of job. In both countries, shrinking coal industries have created common social problems. Flawed mechanisms for a just transition in the United States have left many middle-class families in deep grievances, further undermining public trust in effective climate governance. Against this backdrop, Beijing and Washington should work out a sweeping solution for Just Transition under the Paris Agreement or G-20 frameworks and involve social organizations, think tanks, industry, ordinary citizens, and other climate-minded nongovernment actors in global climate policymaking, so that low-carbon transitions could be achieved without triggering social upheavals.

Constraints and Setbacks

Firstly, the global climate emergency, compounded with the evolving public health crisis and the water-energy-food (WEF) nexus, is posing formidable challenges for international cooperation. One criticism of the Paris Agreement is its lack of enforcement measures should any signatories or parties deviate from the spirit of the climate deal. The global climate governance, a multilateral system under the UN framework with its nature of compromise and divide of interests hard to bridge, constantly meets with obstacles in enforcement. Some countries and parties thus turn to seek other purportedly more efficient governance models, which in a way hardened the Trump administration's opposition to the Paris Agreement. What's more, the COVID-19 pandemic has demonstrated the pressing need of building a community with a shared future for mankind, to address the non-traditional issues of tackling the pandemic with a unified global response, safeguarding global WEF security and improving resilience of social economies. However, from a panoramic view, WEF security conforms to both power logic of geopolitics and norm logic of global governance. The interconnectedness between energy, food and water challenges the efficiencies and effectiveness of single-objective governance in the traditional development-security context. In addition, international cooperation faces severe external challenges as follows. On one hand, the resurgence of statism in Europe and America could well be the biggest obstacle that globalization and global governance face. Brexit and the Trump administration's withdrawal from multiple international institutions have reflected domestic economic plight and wealth distribution inequities; protectionism, as echoed by the wave of anti-globalization, has realistically slowed down the pace of global climate governance. On the other hand, the sluggish economic recovery, acute global issues, North-South developmental inequalities and lack of incentive for international cooperation are the scenario-

based challenges for the 2030 sustainable development goals. What's more, to protect their own industrial and trade interests, the European Union and the Biden administration have successively decided to unilaterally implement the carbon border adjustment by this year, which will subsequently hamper the global climate and trade governance.¹⁰ Lastly, the concept of shared environmental responsibility is employed in the context of disputed economic globalization. Cross-border pollution intensifies with the transfer of industries, i.e., highly polluted industries of low added value and high energy consumption opted for relocation to developing countries with lags in technology, cheap resources and absence of environmental standard. Coupled with price distortions caused by the international division of labor, the amplified social cost of environmental hazards can hardly be calculated into the product's final price.

Secondly, in addition to the post-pandemic economic hardships that aggravated climate financing deficit, there is also concern about public goods deficit for global climate governance. Public goods such as energy, food and water are interdependent and in need of regulatory policies that address natural resource management, agricultural adaptations to climate changes, energy and food market reforms, resource conservation and global information sharing. The Lancang-Mekong Cooperation (LMC) mechanism and the Belt and Road Initiative (BRI) are innovations of Chinese diplomacy, demonstrating China's willingness to provide public infrastructure at sub-regions, regions and around the globe. This marks a new era in major-country diplomacy with Chinese characteristics, which will facilitate substantial progress in the 2030

¹⁰ Reuters. EU sees carbon border levy as 'matter of survival' for industry. <https://www.reuters.com/article/us-climate-change-eu-carbon-idUSKBN29N1R1>

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Biden administration to consider carbon border tax as part of trade agenda: USTR, <https://www.reuters.com/article/us-usa-trade-biden-idUSKCN2AT3EX>

U.S. Department of State. Joint Statement: The United States and the United Kingdom are Working Together in the Fight Against Climate Change. <https://www.state.gov/joint-statement-the-united-states-and-the-united-kingdom-are-working-together-in-the-fight-against-climate-change/>

Agenda for Sustainable Development at all levels. As the pandemic increased difficulties for global environmental governance, collaboration of such efforts have faced barriers on a global scale due to economic recessions. Relatively low oil prices have kept demand for new energy and related products in check, weakened governments' climate financing support, hit low carbon transportation and green energy industries, and thus led to global lag in climate change responses. The down-sloping of world economies, increase of domestic fiscal deficits, and global oil price fluctuations jointly inflicted negative effects on international climate governance, making it harder for countries to fulfil the Paris Agreement.

Thirdly, the U.S. now sees China as its chief strategic competitor. This geopolitical mindset, rendered as the "Thucydides Trap," has left the collective actions high and dry in global climate governance. First, the Obama administration's Asia-Pacific rebalancing strategy was aimed at containing and balancing China's influence, solidifying the U.S. leadership in the region, intensifying geopolitical and economic competitions, and reshaping the regional political and economic orders. One example is the U.S. cooking up stories about Mekong River dams in an attempt to weaken China's stance on water resources.¹¹ The Trump administration claimed in the National Security Strategy that "China seeks to displace the United States,"¹² and implemented a series of strategies to undercut China's rising influence. Second, the American low-carbon industries have developed an increasingly defensive mentality against Chinese counterparts, among which carbon tariffs could become a new diverging point between China and the West. Starting from the American Clean Energy and Security Act of 2009, the U.S.-led West has claimed that steel, iron and aluminum imports from China harmed U.S. industrial interests and caused unfair competitions; the U.S. opted to collect carbon tariffs to restrict

11 李志斐：“国际水资源开发与中国周边安全环境构建”，《教学与研究》，2012年第2期，第44-50页。

12 "National Security Strategy of the United States of America", December 2017, p. 25.

imports of high energy cost and high emission rate from China, thereby creating new trade barriers in the name of green trade to minimize trade deficits. With carbon tariffs becoming a bipartisan policy consensus, the carbon leakage and responsive regulating mechanism in the Belt and Road regions have received much attention. In the 2021 Trade Policy Agenda released by the office of the U.S. Trade Representative, carbon border tax has been referred to as a possible policy option. In addition, the European Commission has adopted its Communication on the European Green Deal. The key measures envisaged in this context include the proposal for a carbon border adjustment mechanism (CBAM) scheduled for 2021, through which the EU expects to strengthen its regulatory role in global climate governance. With a growing EU-U.S. consensus and deepening cooperation on carbon border adjustment tax, the reform on global trading system as well as multilateral climate collaboration will likely be affected.¹³ Third, the governance model of unified convention and excessive distribution of power and obligation could further inflict international disputes, decrease the will of sovereign states to fulfill the obligations, thus leading to fragmentation of the governance system and deficiency of collective actions. Although the UN Sustainable Development Agenda alleviated the fragmentation of international institutions, the pandemic realistically disturbed the ongoing discussions on environmental governance. What's more, the exacerbated fiscal deficits and economic hardships have caused the hard-hit countries to opt for more conservative climate policies, thereby mounting difficulties for unified climate actions.

Fourthly, as climate change skepticism still makes its presence domestically by curbing collaboration internationally, the U.S. has become very passive in responding to climate change and has withdrawn from such mechanisms for

¹³ 2021 Trade Policy Agenda and 2020 Annual Report of the President of the United States on the Trade Agreements Program. Executive Office of the President of the United States. <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2021/march/biden-administration-releases-2021-presidents-trade-agenda-and-2020-annual-report>.

international collaboration. A hardened climate skeptic, President Trump replaced the Climate Action Plan with the America First Energy Plan, replaced the Obama-era Clean Power Plan with the Executive Order 13783, titled “Promoting Energy Independence and Economic Growth,” and in 2017 announced to leave the Paris Agreement. While the Environmental Protection Agency (EPA) passed the Affordable Clean Energy Rule in June 2019 to allow states to increase coal and electricity production efficiency to achieve emission goals, skepticism of climate change has not ceased. In the 2020 presidential election, a Marist Poll demonstrated that only 22 percent of democrats and one percent of republicans acknowledged climate change as top priority of their concerns. Data also shows that U.S. climate policies not only lack bipartisan consensus, but also seem to be increasingly divergent. A Pew Center public opinion poll demonstrates that only 42 percent of the voters take climate issue as seriously as to influence their voting behaviors.¹⁴

14 NPR/Marist poll. http://maristpoll.marist.edu/wp-content/uploads/2020/09/NPR_PBS-NewsHour_Marist-Poll_USA-NOS-and-Tables_202009171415.pdf#page=3.

Joan Michelson. Climate Is Driving Voting More Than You Might Think, Especially For Women. Oct 29, 2020. <https://www.forbes.com/sites/joanmichelson2/2020/10/29/climate-driving-voting-more-than-you-might-think-especially-for-women/?sh=7cc3aff357bd>

Pew Research Center. How Important is Climate Change to Voters in the 2020 Election.

<https://www.pewresearch.org/fact-tank/2020/10/06/how-important-is-climate-change-to-voters-in-the-2020-election/>

Reaching New Heights in China-U.S. Climate Cooperation

Looking into the future, the COVID-19 pandemic has urged deep reflection of humankind's relationship with the nature. The future of global climate governance and the green revival have become the focus of the world attention. To cope with the emerging "co-opetition" between China and the U.S. in the realm of climate change, head-of-state diplomacy, summit diplomacy and bilateral cooperation in the areas of carbon neutrality, carbon market building at regional levels should be used as pragmatic tools to lead the overall China-U.S. climate collaboration.

Firstly, governments should enact head-of-state diplomacy and summit diplomacy to orient the China-U.S. climate collaboration at the strategic level. As a vital means to meet the challenges of global leadership deficit and governance costs, the China-U.S. climate collaboration provides the key impetus at the macro level for fostering healthy bilateral relations. With firm common interests and extensive common grounds, leaders from both sides have achieved successful climate cooperation previously, taking constructive leadership in adopting, signing and bringing into force the Paris Agreement. Based on previous efforts, in order to contribute more toward the Paris Agreement goals and aim high for carbon neutrality by 2060, China and the U.S. should reinforce head-of-state diplomacy and facilitate coordination at such multilateral venues as G-20, Fifteenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 15), and Twenty-sixth Conference of the Parties of the United Nations Framework Convention on Climate Change (COP 26), to promote international climate governance in the post-Paris Agreement era. As a positive gesture to resume bilateral environmental efforts, China may consider to invite U.S. President Joe Biden to the COP 15 to be held in October 2021 in Kunming. On occasion of the summit,

the two countries can publish renewed China-U.S. Joint Presidential Statement on Climate Change, to craft roadmaps for industrial restructuring and technological deployment, identify medium goals, pathways, risks and action plans, carbon rating methods for the climate governance, update China-U.S. Memorandum of Understanding (MoU) to Enhance Cooperation on Climate Change, Energy and the Environment and MoU of Community Infrastructure and Energy Conservation and the like, by reinforcing post-pandemic bilateral collaboration to jointly contribute to sustainable global welfare.

Secondly, governments should attach great importance to protecting intellectual property in the realm of climate adaptation, low-carbon technology, carbon neutrality and other emerging areas, which serves to guarantee a competitive collaboration in a low-carbon future. First is to pay close attention to the U.S. low-carbon industry's suspicion and mistrust toward intellectual property protection, governmental support and involvement, as well as the alleged malpractices of the Chinese side. In this regard, facilitating China-U.S. low-carbon intellectual property cooperation mechanisms would foster a good institutional environment for bilateral trust. Second is to establish joint China-U.S. low-carbon and green technology experimental campus in places as of New Lingang Area in coastal Shanghai, to re-enact the Joint U.S.-China Collaboration for Clean Energy (JUCCCE), U.S.-China Clean Energy Forum, U.S.-China Joint Announcement on Climate Change and Clean Energy Cooperation and other such technological collaboration projects abandoned during the Trump era. Third is to strengthen cooperation with the U.S. arbitration committees and organizations such as the International Chamber of Commerce, and to invite U.S. arbitration institutions specialized in energy and environment technologies to establish offices in China. Fourth is to alleviate the West's suspicion for China's so-called energy nationalism by initiating China-U.S. collaboration groups for sustainable development in such renewable energies as the rare earth and lithium.

Thirdly, governments should acknowledge that China and the U.S. can coexist, co-prosper and be competitively collaborative in the realm of high tech. As technological cooperation is the guaranteed path to tackle the climate crisis, shared understandings among scientists need to be placed as the keystone for bilateral exchanges in science and technology. In this sense, China and the U.S. should strengthen sci-tech cooperation and people-to-people exchanges by building consensus, seeking common ground and shelving differences, so as to strengthen bonds between the two countries. First, current technologies in low-carbon and carbon neutrality are still in an early developmental stage, with high costs and considerable difficulties in the transformational restructuring of energy industry. Negative emissions, i.e., low-carbon, zero-carbon and negative-carbon technologies, are key to a country's climate governance, but disparities in high-tech capacities still exist between China and America, even with shared understandings on the issue of climate change, and common aspirations to exchange experiences in refined equipment manufacturing and academic findings. Second, China and the U.S. can jointly establish mechanisms of high-level dialogues on climate change and energy transformation, opening new rounds of China-U.S. Joint Committee on Environmental Cooperation (JCEC) and China-U.S. Ten-Year Framework on Energy and Environment Cooperation (TYF) Working Group Meetings, facilitating lab cooperation at college level, creating more room for growth in low-carbon governance and cultivating ground-breaking emission technologies. Third, China and the U.S. can revitalize the Action Plans in the seven areas of collaboration, i.e., education, science and technology, environmental protection, culture, health, social development and sub-national cooperation. The U.S. should resume the Fulbright Scholar Program (FSP), refer back to the China-U.S. Nuclear Security Center of Excellence (COE) from the Obama era, and consolidate training and exchange programs between young scholars and scientists of the two countries.

Fourthly, governments should renew and deepen existing China-U.S. low-carbon cooperation mechanisms at the regional level. First is to restart U.S.-China Climate-Smart/Low-Carbon Cities Summit and China-U.S. Governors Forum, and to support regional-level collaboration on green and low-carbon economy. Second is to promote bilateral regional-level collaboration on clean, low-carbon city building, tackle air pollution, establish cooperation bases as Beijing-New York low-carbon/climate-smart city experiment, Shanghai-California electric vehicle standardization park, and Shaanxi-Wyoming clean coal campus, etc. Third is for China to learn from the Tesla case to make use of the bilateral supply-demand relationship on the energy market, focus on developing negative-emission technologies such as carbon sinks and carbon capturing, promote the abandonment of carbon in carbon-sensitive industries both at home and abroad, and break the spell of U.S.-China strategic competition by developing the positive-sum carbon-cycling economy. Fourth is to attach importance to Biden's climate change plan which calls for tending to the needs of the middle class in economies relying on traditional energy production. China and America can use the Japan-Australia Hydrogen Energy Supply Chain (HESC) project for reference, co-invest in hydrogen plants and hydrogen-storing facilities at major coal-producing states in America, and promote just and fair economic transformation through U.S.-China hydrogen collaboration.

As a fifth point, with the national carbon market settled in Shanghai in 2021, China and the U.S. both emphasized the need for strengthening carbon market construction, cooperating on carbon futures, commonly affordable carbon and other such global climate finance architectures. First, the U.S. emission reduction systems at the regional level have been in close collaboration with Shanghai. The Chicago Climate Exchange's voluntary, legally binding greenhouse gas (GHG) reduction and trading system, as well as the Regional Greenhouse Gas Initiative (RGGI), a cap-and-trade system covering

nine Northeastern states (Maine, Connecticut, Delaware, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont), have been working quite well with sustainable progress. The China carbon market headquartered in Shanghai should deepen collaboration and exchanges with Chicago and Northeastern carbon markets, facilitating the listings of respective carbon projects and carbon futures in each other's markets, thereby promoting the carbon market as a new financial bond between China and America. Second, China-U.S. cooperation in carbon price-setting and regional carbon tax policies, coupled with collaboration with the U.S. Environmental Defense Fund (EDF), has led to specific research on the voluntary emission reduction of greenhouse gases and trade management. Inspired by the research findings, the unified national carbon market price, price index mechanism and green energy certificate subsidy policy, among other market strategies, will be utilized to slowly replace government subsidies with free market price-setting. In this endeavor, China should deepen market opening-up to alleviate concerns of the U.S. counterparts over governmental assistance for the low-carbon industry.

As a sixth point, governments should widen investment channels and stimulate innovation of low-carbon technology through green finance. In July 2020, the National Green Development Fund Co., Ltd. was jointly launched by the Ministry of Finance, Ministry of Ecology and Environment and Shanghai Municipality, with a total registered capital of 88.5 billion yuan, the equivalent of 12.66 billion U.S. dollars. Green investment and finance are even more valued in China. In the post-pandemic economic recovery period, the Biden administration will utilize various financial tools such as the green credits, green bonds and climate funds, etc. as important capital sources to advance the clean energy programs. In this context, China's efforts in the green finance may conveniently fill the funding gaps. As the U.S. is rebuilding its new energy infrastructures, China should value this opportunity by increasing investment in American civil infrastructure. Four states in the U.S. have officially

established state-run green banks, while ten others are actively exploring the development of green banks. As the financial market becomes a core supporting base for the international new energy investment, the green finance consisting of green credits, green bonds and green development funds should be encouraged with supportive policies, which would inspire innovations in low-carbon and clean energy. China can foster even closer cooperation with U.S. corporations in the realm of green finance, but should simultaneously be wary of investment risks. Additionally, China can continue to learn from the U.S. experience in new energy development, consummate policy tools for new energy innovation, adjust existing energy market structures, promote diversified development of renewable energy, and incentivize low-carbon technological innovation.

Conclusion

As globalization sustains, global environmental and energy challenges receive more and more attention from state entities and international organizations. Hence the coordination, collaboration and competition over global climate governance have become increasingly important. As the sole superpower of the world, the U.S. is faced with growing challenges of natural disasters. In this context, the environmental diplomacy is or will be of great significance. U.S. climate diplomacy includes global, regional and bilateral cooperation, with a focus on neighboring countries and members of the Global South. At the same time, it is also used as a tool for building international environmental institutions. How to advance the nation's own best interests in environmental diplomacy while also building one's soft power and international image has become America's primary focus in global climate cooperation.

In a nutshell, as the climate crisis goes beyond national borders, China and the U.S. should jointly shoulder responsibilities as the two major powers on the global stage, and work toward the shared goal of a zero-carbon future. Though both have not yet clearly positioned climate governance in policymaking and lack specific objectives in technical terms, such deficiencies have opened up windows of cooperation. The Chinese government thinks highly of dialogues and collaborations on climate change and green, low-carbon industries, takes initiative to host bilateral meetings on climate change, and conducts fruitful cooperation with Europe and the U.S. on the carbon market, low-carbon cities, and climate adaptation. Just like the thawing and improved China-U.S. relations started with Ping Pong diplomacy, the "friendship first, competition last" mindset may also serve as the motto of today's bilateral climate diplomacy.

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