COMMENT

Realizing China's Paris Commitment to Addressing Climate Change: Challenges and Legal Solutions

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Climate change cannot be fought by any single country alone. Such a basic human concern will require broad international cooperation to curb the growing global emission of greenhouse gases (GHGs). An effective international legal framework on climate change will be the instrument for international action against climate change. The United Nations Framework Convention on Climate Change (UNFCCC) pledges to "stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[1] In its 2014 assessment report, the Intergovernmental Panel on Climate Change (IPCC) confirmed that humans clearly influence the climate system.[2] Accordingly, 196 Parties attended the 21st Conference of the Parties (COP21) to the UNFCCC; 175 Parties (174 countries and the European Union), including the United States, signed the agreement at United Nations headquarters on April 22, 2016.[3] Implementing the Paris Agreement requires actions across global Parties and a broad set of policy instruments.

Since 1990, China's carbon emissions have increased 73% due to economic growth. Although China's emissions per capita are only about one-fifth of those from the United States, China is the largest emitter in the world.[4] China signed the Paris Agreement on April 22 and plans to decrease its carbon dioxide (CO_2) emissions by 18% in the second half of this decade, according to the Thirteenth Five-Year Plan.[5] Against this background, this Comment explores two questions:

(1) Is China's existing legal framework sufficient to fulfill its new pledges?

(2) How will the current policies be strengthened and expanded?

Analyzing the evidence available, this Comment evaluates the challenges of implementing the Paris Agreement in China, and puts forward suggestions on how to improve climate change regulations and policies.

I. The Paris Agreement and China's Intended Nationally Determined Contributions

A. *New Approaches to Climate Change Governance*

The Paris Agreement adopted by the 196 Parties of the UNFCCC was regarded as a new chapter in the war on climate change to begin in 2020. The Paris Agreement has 29 articles, including ones on objective, mitigation, adaptation, loss and damage, finance, technology development and transfer, capacity-building, and transparency of action and support. Based on the principles of equity and common but differentiated responsibilities, the Agreement aims to hold the global average temperature increase to less than 2.0° Celsius (C) above pre-industrial levels, and it strives

Author's Note: The views and opinions expressed in this Comment are those of the author and do not necessarily reflect the official policy or position of any agency of the Chinese government.

1. UNFCCC, *First Steps to a Safer Future: Introducing the United Nations Framework Convention on Climate Change*, http://unfccc.int/essential_background/convention/items/6036.php (last visited Nov. 8, 2016).
2. IPCC, Climate Change 2014: Impacts, Adaptation, and Vulnerability—Summary for Policymakers (2014), *available at* http://ipcc-wg2.gov/AR5/images/uploads/WG2AR5_SPM_FINAL.pdf.
3. Of the 175 Parties that participated in the ceremony, 31 participated at the level of head of state, 2 participated at the level of vice president; 24 participated at the level of head of government; 9 participated at the level of deputy prime minister; 29 participated at the level of minister for foreign affairs; 59 participated at the ministerial level; 1 participated at the level of former president; and 20 participated at the level of permanent representative; *see* UNFCCC, *List of 175 Signatories to Paris Agreement: 15 States Deposit Instruments of Ratification*, http://newsroom.unfccc.int/paris-agreement/175-states-sign-paris-agreement/ (last visited Nov. 8, 2016).
4. Anthony Giddens, The Politics of Climate Change 183 (2009).
5. *The Thirteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China*, http://news.xinhuanet.com/politics/2016lh/2016-03/17/c_1118366322.htm (last visited Oct. 13, 2016) (go to https://translate.google.com/ for an English translation of this and other Chinese sources cited below).

to limit the temperature increase even further to 1.5°C.[6] Taking into account the needs and priorities of developing countries, the Parties agreed to define a clear roadmap to ratchet up climate finance to 100 billion U.S. dollars by 2020 while also setting a new goal before 2025 on the provision of financing beyond the 100 billion U.S. dollar floor.

Unlike the top-down approach of the Kyoto Protocol, which is a compulsory order for developed countries to cut GHG emissions, the Paris Agreement adopts a bottom-up approach. The Paris Agreement requires all Parties to put forward their best efforts through nationally determined contributions (NDCs) and to strengthen these efforts in the years ahead. All Parties are required to report regularly on their emissions and on their implementation efforts. There will also be a global stocktaking every five years to assess the collective progress toward achieving the purpose of the Agreement and to inform further individual actions by Parties. More than 180 countries, which contribute 95% of total global carbon emissions, have submitted their own intended nationally determined contributions (INDCs).

B. The Ambition of China's INDC

As a responsible developing country, China has consistently shown its seriousness in joining global climate efforts. On June 30, 2015, the Chinese government submitted its INDC, revealing its commitment to climate change mitigation and adaptation during the post-2020 period. Highlights of the INDC include the following specific goals:

- To achieve peak CO_2 emissions by 2030 or sooner, as best efforts allow;
- To lower CO_2 emissions per unit of gross domestic product (GDP) by 60-65% from 2005 levels;
- To increase the share of non-fossil fuels in the primary energy mix to approximately 20%;
- To increase the volume of forest stock by approximately 4.5 billion cubic meters above 2005 levels.[7]

The National People's Congress (NPC) approved the Paris Agreement on September 3, 2016. To fulfill the commitments to address climate change, the Chinese government would control energy consumption and carbon intensity, pushing for near-zero emission demonstration projects and establishing a carbon market.

Even though China has become the second-largest economy and the largest carbon emitter in the world, it is still a developing country. Thus, there are significant differences between China and developed countries in terms of their respective stages of development, development needs, historical responsibilities, and capacity. China's foremost strategic priorities focus on alleviating poverty, increasing income, bolstering social security, expanding public services, and generally raising the standard of living. Meanwhile, China's traditional input-heavy growth model is no longer sustainable. China must therefore seek an innovative new path of development and upgrade its growth model to a "new normal," shifting the drivers of growth from the quantity of input to the efficiency of input; reducing dependence on energy, resources, and environmental inputs; cultivating new growth points and competitive advantages; and adopting a low-carbon, efficiency-focused path of development.

From international experience, it is well known that CO_2 emissions per capita reach a peak and then drop. Although the height of that peak varies from country to country, all economies appear to conform to this trend of an emissions "rise and fall." According to China's INDC targets, per capita CO_2 emissions could peak at approximately 8 tons at a time when China's per capita GDP will likely be only 14,000 U.S. dollars.[8] This could be a major highlight of China's status as a second-mover developing economy. Considering China's manufacturing industry and its energy structure, it is likely that the peak values of consumption-based emissions and energy use will be lower than those of developed countries.[9]

II. Challenges of Achieving INDC Targets

While China's future development is clearly trending toward low-carbon growth, the country will face a number of challenges in achieving its INDC targets, including its underlying economic structure, energy resources, energy efficiency, technological capacity, and international aspects (such as global energy supply and trade shock).

A. The Balance Between Energy Security and Clean Energy

China, endowed with rich resources of coal, is both the world's largest producer and consumer of coal. Historically, coal has supplied more than 70% of China's energy needs, although coal's share of domestic energy consumption has reportedly declined from 76% in 1990 to 66% in 2014.[10] In the late 1990s, the government began shutting down small, inefficient coal mines for environmental and safety

6. UNFCCC, *The Paris Agreement*, http://unfccc.int/paris_agreement/items/9485.php (last visited Nov. 8, 2016).
7. Information Office of the State Council, *Enhanced Actions on Climate Change—China's Intended Nationally Determined Contribution*, *available at* http://www.china.org.cn/chinese/2015-07/01/content_35953590.htm (last visited Nov. 29, 2016).
8. Fu Sha et al., An Analysis of China's INDC (2015), *available at* http://www.ncsc.org.cn/article/yxcg/ir/201507/20150700001490.shtml.
9. *Id.*
10. National Energy Administration, *2016 Guidance on the Work of Energy* (2016), http://zfxxgk.nea.gov.cn/auto82/201604/t20160401_2219.htm (last visited Nov. 8, 2016).

reasons, as well as economic reasons (oversupply threatened large state-owned mines). Even so, overall coal production and consumption is expected to continue to rise (average 0.2 billion tons per year) and dominate the energy mix in the future.[11] Much of China's total coal supply is of relatively low quality, but it is sufficient to satisfy the current demand for several hundred years.

The relationship between energy consumption and GHG emissions can vary significantly depending on whether or not China adopts aggressive policies to optimize power generation, improve energy efficiency, and increase the use of renewables. China had established a goal in its 12th Five-Year Plan (2011-2015) of reducing coal's dominance by increasing the share of cleaner-burning, more efficient fuels such as natural gas, oil, nuclear power, hydropower, and renewable energy. However, China's most urgent and overarching priorities are social and economic development and the elimination of poverty. The march toward becoming a "moderately developed country" is already in progress, and China has little choice but to maintain rapid economic growth to provide for its huge population.

China acknowledges that its long-term energy security and climate change challenges could be serious impediments to its necessary objective of quadrupling the GDP by 2020. There is an urgent need to go beyond short-term measures. China must not only increase regional energy cooperation in cross-border power and gas projects but, most importantly, it must significantly invest in clean energy technology, the development of renewable energy sources, and energy-efficiency markets to achieve national self-reliance and a sustainable energy future. Securing access to a sufficient and reliable supply of coal and increasing clean energy use while controlling costs will be a major challenge as China seeks to achieve its INDC targets.

B. Clean Technology at an Affordable Cost

The UNFCCC has recognized clean technologies as an important route for addressing climate change.[12] The United Nations General Assembly also adopted resolutions recognizing the fundamental role played by innovative clean technologies in addressing climate change.[13] Clean technologies have developed significantly in recent decades. For example, technological advancements have doubled the capacity factor of the wind turbine over the past 10 years, which made wind energy more efficient and affordable.[14] However, even with these achievements, there remains a considerable gap between current efforts to develop clean technologies and the level of investment required.

As a developing economy, China falls behind developed countries in terms of overall technological innovation, with limited research and development capacity in certain key technologies, especially in low-carbon and adaptation technology. The relative reliability and cost of technology is another major challenge that China needs to face in achieving its INDC objectives. For example, China needs to address issues pertaining to renewable energy generation and the reliability of power grids, environmental impacts of hydropower, the safety of nuclear power, and the uncertainty of carbon capture and storage (CCS) technology. Effective international cooperation to secure access to technology will be an important factor in the successful implementation of the INDC targets.

C. Economic Transition to a Low-Carbon System

As China is still experiencing industrialization and urbanization, heavy-industry sectors such as steel, petrochemicals, construction materials, and equipment manufacturing continue to represent a large portion of the economy. This economic structure, combined with the scaling up of infrastructure development that accompanies rapid urbanization, is likely to result in increased energy consumption and carbon emissions. This creates path dependencies that are likely to persist, at least in the medium term. While the Chinese government has committed to rebalancing the economy, the fact remains that industrial restructuring cannot be accomplished overnight, and downward pressure on the economy presents serious challenges to transition.

In order to decrease massive industrial production that consumes huge amounts of fossil fuel energy, the central government promotes the concept of "low carbon" through a top-down approach to the local level. Reducing energy intensity and overcapacity are two practical approaches for China to achieve the low-carbon objective.[15]

III. Legal Proposals for Implementing China's INDC

At the opening ceremony of the Paris climate summit, Chinese President Xi Jinping said China would adopt new policy measures to improve the industrial mix, build a low-carbon system, develop green building and low-carbon

11. Shi Yubo, Deputy Director of the National Energy Administration, Opening Speech of the U.S.-China Clean Coal Development Forum (2015), *available at* http://www.nea.gov.cn/2015-08/31/c_134615561.htm (last visited Nov. 29, 2016).
12. Ahmed Abdel Latif et al., Overcoming the Impasse on Intellectual Property and Climate Change at the UNFCCC: A Way Forward (International Center for Trade & Sustainable Development, Policy Brief No. 11, 2011).
13. UNFCCC, *Background on the UNFCCC: The International Response to Climate Change*, http://unfccc.int/essential_background/items/6031.php (last visited Nov. 8, 2016).
14. Justin Martino, *Advancements in Wind Turbine Technology: Improving Efficiency and Reducing Cost*, Renewable Energy World (Apr. 2, 2014), http://www.renewableenergyworld.com/articles/2014/04/advancements-in-wind-turbine-technology-improving-efficiency-and-reducing-cost.html (last visited Nov. 29, 2016).
15. State Council, The Division of the State Council on the Implementation of the "Government Works Report" Focus Sectors (2016), *available at* http://www.gov.cn/zhengce/content/2016-03/29/content_5059540.htm (last visited Nov. 29, 2016).

transportation, and establish a nationwide carbon emission trading market.

A. *Interaction Between the Air Pollution Control Law and Energy Laws*

Although CO_2 is not a pollutant according to Chinese environmental law,[16] fossil fuel consumption exacerbates traditional environmental degradation in the form of air pollution where consumption occurs and in increased pressure on the environment in mining areas. Prominent examples of pollution in China are high levels of fog and haze in the capital city, Beijing. Short-term solutions such as temporary industry closures, halting construction, and vehicle restrictions keep the sky "blue" during special events,[17] but only through tackling the fundamental causes of air pollution by reforming the energy structure and enforcing strict emission standards for industries will clean air and blue skies become the norm.

The prevention of air pollution and the mitigation of GHGs have generally been treated separately. However, in recent years, it has become increasingly recognized that air pollution and climate change are linked in several ways,[18] and that it would be beneficial to address them in an integrated policy. Air pollution control is more effective than climate change policy, because China's environmental protection departments are relatively closer to emission sources due to on-site control of air pollution than are the development and reform department. Thus, the revised Air Pollution Control Law[19] is a more operational and powerful piece of legislation than a series of energy laws for addressing clean energy and carbon emissions. In the fight to reduce carbon emissions, the Air Pollution Control Law could play an important role in the constant monitoring of emissions, while energy laws address energy conservation and promote low-carbon energy use.

Chinese energy laws concentrate on the coal, electric power, energy conservation, and renewable energy sectors, covering nearly the entire process of energy production and consumption.[20] However, based on both international and domestic circumstances, these laws fail to meet the requirement to address climate change in the long term. Due to the new challenges facing China's energy and economic development by the complicated international climate change regime, China lacks a basic energy law that reflects an energy strategy or policy orientation and that comprehensively coordinates energy and energy-related activities. Accordingly, it is essential that China enact a basic and comprehensive law at a high legal level to address the situation.

In particular, coal dominates the energy structure of China. It is challenging to reduce the dominant role of coal in power generation in the short term. In 2015, coal output was 3.6 billion tons, 50% of which was consumed for power generation, contributing 80% to the total national power generation. This output will continuously pose a major challenge to air quality. In March 2016, the National Development and Reform Commission and the National Energy Administration (NEA) issued a joint document on freezing new coal-fired stations in specific regions and regulating existing coal-fired stations nationwide.[21] In the context of growing power demand and energy shortages, it is urgent to apply strict oversight to the power industry under the Air Pollution Control Law and energy laws.

Since the energy sector has a compelling responsibility and obligation to reduce carbon emissions, the use of renewable energy plays a strategic role in maintaining a balance between the energy supply and carbon emissions in China. The Renewable Energy Law[22] established the legal framework for promoting renewable energy, including mechanisms such as guaranteed grid access, classified and fixed on-grid pricing, and cost-sharing. In March 2016, the NEA issued a regulation addressing complete access of renewable energy to the national grid.

In the first quarter of 2016, the Chinese central government issued three regulations on power plants and clean energy to comply with its commitment from the Paris meeting. In the context of reducing energy intensity, Chinese legal efforts have focused on the development of energy-efficiency standards and labeling, including appliance and building code standards.

B. *Clean Technology Transfer With Respect to Intellectual Property Rights (IPRs)*

Since developed nations currently own the majority of existing clean technologies, transfer of these technologies from developed nations to developing nations has become a focus of global climate change efforts. International bodies and treaties such as the IPCC and the UNFCCC have emphasized the transfer of clean technologies from developed to developing nations. As early as 1992, the

16. In *Massachusetts v. Environmental Prot. Agency*, 549 U.S. 497, 37 ELR 20075 (2007), the U.S. Supreme Court ruled that CO_2 emitted from a moving source is a pollutant.
17. During the Asia-Pacific Economic Cooperation meeting in 2014, a set of comprehensively strict measures on controlling air pollution were carried out in Beijing, https://en.wikipedia.org/wiki/APEC_blue (last visited Nov. 29, 2016). G20 Hangzhou Summit in 2016 is another example of pollution control campaign, https://en.wikipedia.org/wiki/2016_G20_Hangzhou_summit (last visited Dec. 7, 2016).
18. U.S. Environmental Protection Agency, *Air Quality and Climate Change Research*, https://www.epa.gov/air-research/air-quality-and-climate-change-research (last visited Nov. 8, 2016).
19. The Air Pollution Control Law entered into force on June 1, 1988, and it was amended in 1995, 2000, and 2015.The current version of the Air Pollution Control Law entered into force on Jan. 1, 2016. The full text of the act is available at http://www.npc.gov.cn/npc/xinwen/2015-08/31/content_1945589.htm (last visited Nov. 8, 2016).
20. National Energy Administration, *Energy Laws, Regulations, Policies, and Documents Compilation*, http://www.nea.gov.cn/nyflfg/index.htm (last visited Nov. 8, 2016).
21. *Bursts of Three Important Ministries Guarantee the Orderly Development of Coal*, Sec. Times Online, Apr. 21, 2016, http://finance.sina.com.cn/roll/2016-04-21/doc-ifxrpvqz6310343.shtml (last visited Nov. 29, 2016).
22. The Renewable Energy Law of the People's Republic of China, Ministry of Commerce People's Republic of China, http://english.mofcom.gov.cn/article/policyrelease/Businessregulations/201312/20131200432160.shtml(last visited Nov. 29, 2016).

IPCC pointed out that "as the GHG emissions in developing nations are increasing with their population and economic growth, rapid transfer, on a preferential basis to developing nations, of technologies which help to monitor, limit or adapt to climate change, without hindering their economic development, is an urgent requirement."[23] The UNFCCC requires developed nations to take "all practicable steps to promote, facilitate and finance, as appropriate, the transfer of or access to environmentally sound technologies and know-how" to other nations, particularly developing nations.

The World Trade Organization's (WTO's) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) also asks developed nations to promote and encourage technology transfer to the least developed countries (LDCs) Members. Specifically, the TRIPS Agreement asks developed nations to "provide incentives to enterprises and institutions in their territories" so as to promote and encourage technology transfer to the LDCs to "enable them to create a sound and viable technological base."[24]

To facilitate the transfer of clean technologies, the UNFCCC has set up several mechanisms. The clean development mechanism (CDM) and joint implementation (JI) mechanism established by the Kyoto Protocol allow a nation with an emission-reduction or emission-limitation commitment to implement an emission-reduction or emission-removal project in developing nations. However, during the past two decades, actual transfer of clean technologies to developing nations has been limited.

Governments of developed nations, such as the United States and the European Union, have insisted on strong IPR protection for clean technologies. The U.S. special envoy for climate change stated: "we must make the development and dissemination of technology a top priority in order to help bring sustainable, low-carbon energy services to people around the world, and we must do so in a way that recognizes the importance of protecting and enforcing intellectual property rights."[25] The European Union stated: "IPRs will be the catalyst, not the barrier, for the investments, innovation, diffusion, and deployment of low carbon technology we need to limit and reduce carbon emission. Strong IPRs will provide necessary incentive for innovation. Regulatory and policy intervention should focus on the issue but not on IPRs."[26]

As the second-largest economy and the largest carbon-emitting Party, China should develop clean technology polices that contain specific Chinese characteristics. Domestic innovation and international collaboration is more feasible and sustainable than relying on technology transfer from developed countries.

1. National IPR Law and Domestic Innovation

China should focus on encouraging domestic innovations in clean technologies. The strategy includes optimizing current IPR systems or creating customized IPR systems that reflect the nation's developmental realities. It may also include utilizing open source movement, patent pools, and patent commons in the area of clean technology. Further, raising environmental standards to increase domestic demand for low-carbon technologies is a law-based option to increase motivation.

Complying with the TRIPS Agreement probably would not prevent China from having a customized IPR system that could reflect its own needs in technology development. While the TRIPS Agreement establishes minimum requirements for IPR protection in a WTO Member nation, it also offers flexibilities that can be leveraged at the discretion of Member nations. The TRIPS Agreement provides individual WTO Member nations with policy space to regulate the patentability of clean technologies or to deny patent protection for certain technologies. Hence, the Chinese government can provide its own criteria regulating which inventions can be granted patent protection. The TRIPS Agreement also leaves room for each Member nation to deny patent protection to technologies that are necessary to protect human health and the environment. For example, the IPRs law can set aside technologies posing serious harm to the environment from patent protection, even when such technologies satisfy the patent criteria.

2. International Technology Collaboration Platform

The CDM was introduced into the Kyoto Protocol as a project-based emissions trading mechanism. Through this mechanism, developed countries can comply with their commitments by investing in GHG emission reduction projects in developing countries for certified emission reductions (CERs). Hence, a CDM project enables the transfer of a low-carbon technology to a developing country that would be in accordance with that country's development needs. China already has 1,501 CDM projects certified by the CDM accreditation panel as of September 30, 2016.[27] Through the CDM platform, China could build the national capacities necessary for attracting, absorbing, and implementing low-carbon technologies. Chinese regulatory authorities also could use incentives,

23. IPCC, Climate Change: The IPCC 1990 and 1992 Assessments (1992), *available at* http://www.ipcc.ch/ipccreports/1992%20IPCC%20Supplement/IPCC_1990_and_1992_Assessments/English/ipcc_90_92_assessments_far_full_report.pdf.
24. Agreement on Trade-Related Aspects of Intellectual Property Rights, Art. 66, Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 154, *available at* http://www.wipo.int/wipolex/en/details.jsp?id=12746.
25. Testimony of Todd Stern, Special Envoy for Climate Change, Statement to the House Select Committee for Energy Independence and Global Warming (Sept. 10, 2009), http://www.state.gov/e/oes/rls/remarks/2009/129204.htm (last visited Nov. 29, 2016).
26. Ian Harvey, *Intellectual Property Rights: The Catalyst to Deliver Low Carbon Technologies*, The Climate Group (2008), *available at* https://www.theclimategroup.org/sites/default/files/archive/files/Intellectual-Property-Rights.pdf.
27. National Development and Reform Commission, *CERs Have Been Issued by CDM Projects in China*, http://cdm.ccchina.gov.cn/NewItemAll2.aspx (last visited Nov. 8, 2016).

such as subsidies, to encourage local companies to join the CDM program.

Both the United States and China are large investors in clean energy and already have a robust program of energy technology cooperation. Since 2014, the United States and China have released three joint announcements on climate change. In each document, technological innovation and collaboration is the key section. The U.S.-China technology collaboration platform includes such mechanisms:

- Establishing the U.S.-China Climate Change Working Group (CCWG), under which they have launched action initiatives on vehicles; smart grids; carbon capture, utilization, and storage; energy efficiency; GHG data management; forests; and industrial boilers;
- Creating the U.S.-China Clean Energy Research Center, which facilitates collaborative work in carbon capture and storage technologies and energy efficiency in buildings.[28]

C. Regulatory Framework of a Domestic Carbon Emission Trading Market

China is exploring the implementation of a domestic carbon market and emission trading system. The 12th Five-Year Plan specifically included carbon markets as a key measure to reduce carbon intensity. In 2011, the National Development and Reform Commission (NDRC) officially approved carbon trading pilots in seven cities and provinces.[29] Although all seven carbon exchange pilots were implemented by mid-2014, China remains in danger of missing its carbon-intensity reduction goals. To meet the 40-45% reduction goal by 2020, China would need to reduce emissions by at least 3.9% per year for the rest of this decade. Thus, China will launch a national emission trading system in 2017, covering key industry sectors such as steel, power generation, chemicals, and building materials.[30]

In 2014, regional Interim Measures for Carbon Emissions Trading were promulgated in succession by the seven pilot cities and provinces. The NDRC also issued national Interim Measures for Carbon Emissions Trading in December 2014, which entered into force in January 2015. The regulations provided a legal basis and guidelines for carbon emissions trading, including allocation, trading, verification, supervision, and liability. However, it is urgent that the central government promulgate a formal regulation on carbon trading before a national program goes into operation. The new regulation on carbon emissions trading should embody the following:

- The government should ensure public participation and transparency in allocations;
- The proportion of the paid quota should be increased in the primary allocation;
- The central government should establish specialized authorities to conduct a national carbon trade;
- The government could set high penalties for parties with excess carbon emissions; and
- The national carbon trade could interface with an international carbon market.

IV. Conclusion

The Paris Agreement signals that the international community recognizes climate change as a global challenge, and establishes "new" legal documents to address climate change. On the basis of common but differentiated responsibilities and respective capabilities, China would ensure full implementation of the Paris Agreement.

However, China faces many challenges in mitigating carbon emissions, such as a coal-dominated energy structure, a need for clean technology innovation, and extensive development. This Comment proposes the following recommendations on strengthening current domestic climate change mitigation policies and regulations:

1. Connect the Air Pollution Control Law and energy laws to the issue of climate change in terms of fossil fuel energy consumption;
2. Focus on domestic innovation of clean technologies and international collaboration, instead of international transfer of technologies; and
3. Establish a national carbon market and emission trading system.

No country has yet faced such a dire task on such an enormous scale of growing its economy while simultaneously protecting the environment. Despite the aforementioned difficulties, China is taking initiatives to advance a low-carbon economy, guided by policy instruments and regulations with specific Chinese characteristics.

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28. Press Release, The White House, U.S.-China Joint Presidential Statement on Climate Change (Sept. 25, 2015), *available at* https://www.whitehouse.gov/the-press-office/2015/09/25/us-china-joint-presidential-statement-climate-change (last visited Nov. 29, 2016).
29. The seven cities and provinces are Beijing, Shanghai, Tianjin, Chongqing, Shenzhen, Guangdong, and Hubei.
30. Press Release, Secretary of State John Kerry, Regarding the U.S.-China Joint Presidential Statement on Climate Change (Sept. 25, 2015), *available at* http://www.state.gov/secretary/remarks/2015/09/247296.htm (last visited Nov. 29, 2016).