

Editorial

# Optimal Transition toward Innovation-led Sustainable Governance under the 2020 Paris Regime

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**Abstract:** This Special Issue consists of selected papers from the 2019 Sustainable Asia Conference (SAC), an annual international conference held at the Anhui University of Finance and Economics, Bengbu, China, in June of 2019, and the 12th Sustainable Asia Conference held at Inha University, Incheon, Korea, in October of 2019. SAC is one of the leading international conferences for presenting novel and fundamental advances in sustainable development issues for Asia. Evidently, sustainable development urgently requires public and private cooperation for the challenges faced across diverse fields of activities because of the complex procedure of enactment. Northeast Asian countries are very sensitive to this matter because of the strong leadership of their governments, and thus, it is of utmost importance to develop sustainable governance mechanisms. Government-led political regulations could be much more important in Asia, but without the strong support of the private sector, they cannot be sustainable. We have already seen many policy failures in Asian countries during this initial stage of ecological civilization. Therefore, this Special Issue proposes the workable mechanism for sustainable development in diverse perspectives. This Special Issue focuses on diverse yet unique issues for sustainable development and its governance under the Paris regime in 2020.

**Keywords:** Paris Agreement; governance; innovation; Sustainable Asia Conference (SAC)

## 1. Introduction

The year 2020 is so important in human history that most countries in the world have committed to a new paradigm of sustainable development with environmentally-friendly policies through the Paris Agreement, dealing with greenhouse gas emissions mitigation, adaptation, and finance. Signed in 2016, the aim of the agreement can be summarized with three missions. First, all member countries should maintain the increase in the global average temperature at well below 2 °C above preindustrial levels and pursue efforts to limit the temperature increase to 1.5 °C above preindustrial levels, recognizing that this would significantly reduce the risks and impacts of climate change. Second, the countries should increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production. Third, international cooperation is required to make finance flows consistent with a pathway toward low greenhouse gas emissions and climate-resilient development.

The Paris Agreement was adopted by representatives of 196 state parties at the 21st Conference of the Parties (COPs) of the United Nations Framework Convention on Climate Control (UNFCCC) in Paris on 12 December, 2015. As of November 2019, all UNFCCC members have signed the agreement and 188 have become party to it, resulting in the inauguration of the Paris regime starting in the year 2020. Under the Paris Agreement, each member country must decide, implement, and regularly report on the contribution that it makes to mitigate global warming. No mechanism forces a country to set a specific emissions target by a specific date because the agreement is based on voluntary but unilateral commitment. Instead of a two-track system between the historical responsibility of the advanced

countries and the urgent need for the compensation of the developing countries, there is a unilateral and voluntary regulatory system for all member countries. All member countries had recognized the urgency of the mission against global warming without any exception to the Paris Agreement, however, the US president, Donald Trump, announced his intention to withdraw the United States from the agreement in June 2017, implying that other member countries should make greater efforts to reduce the 5.1 gigatons or 14.3% of all global CO<sub>2</sub> emissions that would represent the additional burden coming from the withdrawal of the United States (see Figure 1). Nonetheless, all the other member countries of COP24 agreed to proceed with rules to implement the Agreement at Katowice, Poland in 2018. After the United States left the Paris Agreement, China took a leading role by hosting many of the preparatory meetings in the weeks leading up to COP24. It seemed this “mission impossible” would be accomplished through the proactive participation of other countries.

However, this rosy prediction could not be replicated in Madrid, Spain. In fact, Brazil was designated as the host country for 2019, but the government withdrew its hosting offer, and the next candidate, the Chilean government, also forfeited the hosting opportunity. When the Spanish government hosted COP25, the overriding issue of how rapidly the world is required to cut greenhouse gas emissions received little official attention, resulting in disappointing decisions about the carbon market without any unanimous consensus and a delay in the emissions cut until the next climate conference in Glasgow. Even though the dawn of the Paris regime is near, there is still significant concern on the individual effect of the regime, indicating a kind of “tragedy of the commons” [1]. Currently, the most important mission is to change the perception of sustainable development from the additional burden of the national economy to a “blue ocean” for the growth engine of the economy. Therefore, in order to accelerate this transition toward the Paris regime, all countries should make efforts toward good governance for future challenges because governance could be defined as the workable mechanism for sustainable performance [2].

World fossil carbon dioxide emission 1970–2018

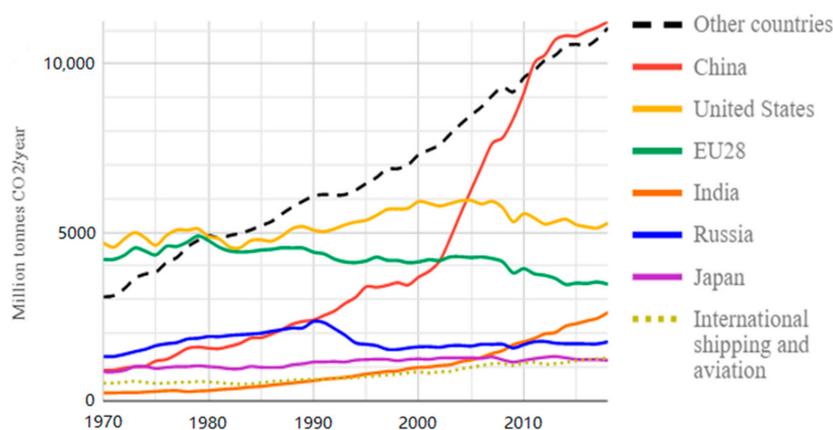


Figure 1. World fossil carbon dioxide emission 1970–2018 [3].

The purposes of the annual Sustainable Asia Conference (SAC) and the selected papers of the conference are focused on the sustainable governance needed to promote the Paris regime. Technological innovation is the key to governance because all of the issues surrounding sustainable development are invisible, untouchable, and thus not easily convincible, and only innovation can provide an appropriate way for the optimal path control toward sustainable development. The Northeast Asian countries, especially China and Korea, are the most dynamically proactive economies for this innovative way to lead the global economy, and thus the papers in this special issue shed light on the significant implications and suggestions.

## 2. New Paradigm of the Paris Regime

As mentioned in its mission, the Paris Agreement has three important keywords: mitigation, adaptation, and green finance. Mitigation is much more important in the role of the developed countries due to their historical responsibility coming from industrialization. This was the core initiative of the Kyoto Protocol, which successfully implemented market-oriented flexibility mechanisms on carbon emission reduction. Flexibility mechanisms are used by the 36 developed countries of the Annex I group in meeting their emission limitation commitments [4]. These flexibility mechanisms are International Emissions Trading, the Clean Development Mechanism, and Joint Implementation. Due to the marketability of the flexibility mechanisms, greenhouse gases were significantly reduced from 2008 to 2012. The initial success of the flexibility mechanisms brought about the possibility overcoming global warming through the mitigation of carbon dioxide and other greenhouse gases. However, the transition toward a carbon-zero society implies that the CO<sub>2</sub> produced in the local community can and should be eliminated by diverse mitigation measures, thereby keeping particulate matter (PM) levels at the current state.

The second concern of the Paris Agreement pertains to adaptation. Even though the Kyoto Protocol resulted in initial success in the first stage, it cannot proceed further due to the tragedy of the commons [5]. Since environmental issues come from market failures as a kind of public good, most of the other countries just want to enjoy the mitigation results of the Annex I group, resulting in a moral hazard toward international cooperation. Moreover, most of the developing countries argued that they are not ready to participate in the mitigation. Instead, they are victims of the industrialization of the developed countries due to the excessive emission of CO<sub>2</sub> and the resulting global warming, and thus they ask for appropriate measures to be taken against the environmental mishaps resulting from this excessive CO<sub>2</sub> emission and global warming, such as drought, flood, desertification, and deforestation. These kinds of defensive activities against global warming are referred to as adaptation, are the most important concern of the developing countries. Due to a lack of appropriate support for adaptation, there is always strong antipathy from these countries at the COP meetings, and the disappointing conclusion of COP25 in Madrid in 2019 may have come from the lack of governance on adaptation in the face of climate change. Therefore, the second mission of the Paris regime is the proactive promotion of adaptation projects in more precise and accurate ways.

The third mission of the Paris regime is the sustainable governance of mitigation and adaptation through green financing. To successfully promote any economic activities, the core focus should be on accountable financial management. For this purpose, COP partners created a new subsidiary of the UN, the Green Climate Fund (GCF). The aim of the GCF is to promote environmentally-friendly global green growth projects from a financial perspective. For this purpose, it is assumed that more than 100 billion U.S. dollars shall be used by GCF every year to proactively promote mitigation and adaptation activities worldwide.

Even though these three missions of the Paris regime are well organized for good governance with respect to climate change and global warming, unfortunately, it seems that, in reality, this transition path from the traditional economy toward a sustainable one will be not easy at all. As of 2017, none of the major industrialized nations were implementing the policies they had envisioned and had not met their pledged emission reduction targets [6]. According to a group of scholars from MIT, there was strong evidence that the goal provided by the Paris Agreement would not be met in the future; under all their scenarios, global warming would not decrease, but rather increase by at least 3.0 °C by 2100 [7].

The most serious concern of the Paris regime may come from its “promise”-based mechanism. In order to include all of the countries in the world, the regime did not specify any individual country’s responsibilities. Instead, it depends on the voluntary commitment of the member countries to reduce their CO<sub>2</sub> emissions. The regime is based on the optimal prediction that most of the member countries will somehow reduce their carbon pollution voluntarily and assiduously without any binding global enforcement mechanism to measure and control CO<sub>2</sub> emissions at any level, from factory to state,

and without any specific penalty gradation or fiscal pressure, such as a carbon tax to discourage bad behavior [8].

Particularly, the trade conflict between the United States and China in 2019 created a sense of protectionism in the national economy, resulting in much less stress on environmental challenges. Most countries have to choose between focusing their efforts on long-term environmentally-friendly sustainable development and a short-term, or even urgent, boost of their national economy in the face of sagging recession. Nonetheless, all the member countries at the COP meeting agreed that the mission of sustainable development is unavoidable for the future of all humankind. Even if the road to the destination is far away and the sun is already setting, we must go toward our destination, a sustainable economy. Therefore, we should find a solution for this “mission impossible” in terms of sustainable governance for the future of the Paris regime.

### 3. Sustainable Governance on the Optimal Transition

Sometimes, a man-made miracle to overcome natural disaster may not be sustainable, even with technological innovation, due to the lack of governance. As a good example, the land of Israel is called the land of milk and honey in the Bible, but in reality most of the land is covered by rock and stone, and there is only a very mild rainy season in the winter, resulting in constant drought and desertification of the land over time. In order to overcome this natural condition, the Israelis built a huge irrigation system and used the Jordan River to irrigate farmland. It is amazing to see massive date palm plantations in the middle of the desert in Israel. However, this successful operation has resulted in a lower level of river water, creating another serious environmental disaster due to the lack of sustainable governance. There is no single, unified answer to the issue of sustainable governance for unsustainable irrigation agriculture in Israel. However, the most important lesson from this system may lie in the innovative way of thinking—not from the zero-sum type of solution but from the plus-sum type of total revolution by technological innovation. The ever-increasing sea water level from the melting glaciers in the north Arctic areas can be a solution for an alternate irrigation system because it reduces the sea level and maintains the river level at the same time. This kind of plus-sum principle certainly may require significant initial investment in green technology for desalination, however, it is an investment in a sustainable future, not a cost. Israel may even export this technology, with the support of GCF, to other countries with very low levels of rainfall. This kind of exemplary case may apply to the global case of the Paris regime as well.

As explained above, the Paris regime has already showed many possible challenges arising from this lack of governance due to the moral hazard coming from protectionism-oriented national policies and the lack of any regulatory penalties. In order to more successfully promote the transition path from traditional economic policies toward a sustainable economy, sustainable governance should be well developed and implemented worldwide.

This Special Issue has many papers on the issues of sustainable governance, but most of their arguments do not present clear, precise, and accurate ways of sustainable governance. Thus, it is much more important to summarize and propose effective ways to promote the arguments of sustainable governance in their research. Most of the studies on the environmental issues conclude with implications and suggestions based on their empirical test results. Unfortunately, most of these conclusions are much too ambiguous, perfectly matching with common sense interpretations of their empirical findings. For example, Wang et al. conclude that “... from the perspective of economic value, a certain gap needs to increase government intervention and support. The development of complementary integration based on local conditions is an important measure to optimize the energy consumption structure in rural areas and improve the ecological environment” [9]. The authors should explain the specific reasons for “the certain gap” and the precise measures for this gap more clearly. If everybody can say that government intervention should be increased, then this kind of common sense can be found everywhere. These are not unique implications and suggestions. In order to implement any specific policy or business strategy, the research papers should identify more specific and accurate implications

and the resulting suggestions directly from the numeric empirical results. Otherwise, the research papers cannot contribute to any solution for the social problems and/or difficulties. Sustainable development is a very complicated and complex process, and thus, more precise suggestions only can guarantee the sustainable governance for sustainable performance. Therefore, the promotion of sustainable governance should be based on the following directions of the optimal path control for future implementation.

First, sustainable development cannot be achieved by the traditional competition-based or efficiency-oriented economy, but by the value creation based on network management [10]. Therefore, all the research papers should specifically explain how to enlarge the size of the pie, instead of how to maximize any individual portion. This implies that authors should present their unique ideas or innovative ways of thinking to solve the environmental issues arising against common sense. The concluding implications and suggestions of the research should provide solutions for the future from an innovation perspective. Second, since governance is defined as the workable mechanism for sustainable performance, performance-oriented solutions should be provided in the articles about the environmental issues. If the authors only mention common sense suggestions in their conclusions with very vague and abstract words, the empirical research may present just a tautological conclusion without any practical solution. Thus, the researchers should make more of an effort to draw very specific and unique, yet precise solutions for performance. Without any practical discussion on performance, the research in social science journals is meaningless. Third, the authors should conclude their empirical research with “sustainable” performance. For example, if the authors discover that the benchmarking case of any specific province, city, or any company are the best and most efficient ones, then they should check whether these provinces, cities, or organizations can continue to perform on the efficient frontier. If this is not guaranteed over time, it could be just a short-term show-off effect, and it will be meaningless for long-term oriented sustainable development.

Therefore, for sustainable governance on the transition path toward the Paris regime, all research on the environmental issues should be based on these three lemmas of innovation, performance, and sustainability. The papers in this Special Issue shall shed light on this direction.

#### 4. Concluding Remarks

Different from the top-down approach in the Kyoto Protocol, the Paris regime is based on the bottom-up, voluntary partnership approach to reducing CO<sub>2</sub> emissions. This implies that all governments should work with private companies and public citizens for better public–private partnerships (PPP) because sustainable development should be based on the harmonization of all interest groups for the eventual creation of shared values [2,10]. Without the support of the people and private industries, the government-led economies in the Northeast Asian countries cannot be successful in achieving a smooth transition toward sustainable development. Therefore, researchers should not overemphasize the strong effect of the regulatory regime in this region, because regulation works well only in the initial stage of any new paradigm. Over time, instead of regulation, proactive promotion policies, such as tax incentives and matching public funds, could better encourage the private sector to participate in this transparent, predictable transition path toward sustainable development under the Paris regime. Full, bottom-up participation from the private sector requires a customized approach in order for their participation to create value for all. It is time for all Asian governments to work together toward our sustainable future. This Special Issue provides many thoughtful implications and suggestions for these public–private partnerships with sustainable governance.

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