



Roadmap to Post-Kyoto Climate Agreements

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Abstract: The negotiation of the international climate regimes is a highly complicated process. Nevertheless, the determinants for post-2012 commitments still rely on the political will, economic interest and scientific knowledge of the global powers. The vehicles for post-Kyoto negotiations will be not only confined to the UNFCCC course, but bilateral, multilateral agreements and even unilateral commitments outside the UNFCCC are also likely to take place. Furthermore, the contents of agreements will cover mitigation, adaptation, technologies, and low carbon development. In the end, it is likely to become a basket of agreements to adapt and mitigate the climate change under the overall framework of sustainable development.

Key words: post-Kyoto agreements; climate negotiation; UNFCCC

Introduction

The negotiations on the Kyoto Protocol were completed at the end of 1997 at the Third Conference of the Parties (COP-3) of the UN Framework Convention on Climate Change (UNFCCC)^①, and it entered into force on February 16, 2005, with the commitments of the developed countries to take the lead in reducing greenhouse gas emissions. The mitigation of climate change is a long-term task that human should face, and it requires to make tremendous efforts. However, the agreed goals for emission reduction in the Kyoto Protocol are very limited and the agreement only lasts to 2012. Clearly, objectives of the Kyoto Protocol are not enough, the international community has to start building a climate regime after the Kyoto Protocol, namely the post-Kyoto period or after the year 2012, so as to cooperate globally and to face the challenges of climate change.

In fact, Item 9 of the Article 3 of the Kyoto Protocol

stipulates in explicit terms that the Conference of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period. This means that the post-Kyoto international climate negotiations should be activated no later than 2005. In fact, although the COP negotiations have not started yet, various proposals on post-Kyoto international climate agreements have already been made through academic, semi-official and official channels, since the Marrakech Agreement^② in 2001^[1-2]. The Pew Center on Global Climate Change in the United States published a report at the end of 2004^[3], which provided a comprehensive review on the various proposals in the literature. The total number of such proposals is as many as 44, involving emissions reduction, burden sharing, low carbon development, technologies and adaptation.

All the proposals in general have their own rationales, but achieving an agreement needs to seek common understanding through negotiations. To gain a good view over the post 2012 process, we need to see not only the individual trees, but also the forest. There is a need to sort out the highly complicated proposals and initiatives in a rational manner, so as to reveal the overall tendency for the nego-

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① The United Nations Framework Convention on Climate Change was completed in 1992 and entered into force in 1994. The following discussion will use the Convention or Framework Convention for short

② The Marrakech Accord was concluded at the end of 2001 at COP-7. At COP-6 in the Hague, the Parties failed to reach an agreement for implementation of the Protocol. At COP 7, most technical and operational issues were largely resolved for the implementation of the Kyoto Protocol

tiation of the post-Kyoto international climate agreement, and a clear understanding of the situation. As a large and developing emitter, China has to be positive in contribution to building an international climate regime but in the meantime to be aware of its possible impact on building the well-off society and sustainable development of China. In the following analysis, this paper will first look at the background or driving/constraining factors of a post-Kyoto agreement, and then provide some indications of the orientations for negotiation. Whatever an agreement is to be negotiated, it has to be initiated by a party or a group of parties. After discussion on the likely initiative takers and the format of agreements. This paper goes further to analyze possible games and choices.

1 Background

When an international agreement is adopted, it has its corresponding background, which provides information on the driving/constraining factors associated with the achievement of an agreement. The Kyoto Protocol appears to be an environmental agreement, but actually it goes far beyond the scope of environment. President Bush gave three reasons why the United States refuses to ratify the Kyoto Protocol: 1) large developing countries such as China, India and Brazil do not take on the commitment of emission reduction; 2) the economic cost for the US would be too high; 3) there are still some scientific uncertainties^[4]. Evidently, the reasons behind international agreements are mainly political will, economic interest and scientific knowledge.

The political will for international agreements largely depend on international political relations. The United States believes that exemption of developing countries from participating in emission reduction is unfair to the United States, which would affect the international competitiveness of its enterprises and make emission reduction ineffective. Thus, this is a problem of political will. The Convention explicitly provides the “common but differentiated responsibilities” principle requiring that developed country parties should take the lead to reduce anthropogenic emissions and assist developing country parties in mitigating emissions jointly. There is a solid foundation of international politics for the developed countries to fulfill the Kyoto Protocol

obligations. In general, the mitigation cost in the developed world may be high and vary. For example, the cost in Japan and EU is estimated twice as high as that in the United States^[5]. And it is clear that, there is an international political strategic consideration for the United States, to require the developing countries to participate in commitment. In 1996, the World Bank, led by the United States, announced that China had “graduated” and should no longer be in the group of low income developing countries. “Graduation” means China’s ineligibility to receive preferential loans and development assistance from the World Bank. The CIA (Central Intelligence Agency) official website uses purchasing power parity (PPP) to measure GDP, with a result that China is the second largest economy only after the United States. China, India, Brazil and other large developing countries have great potential for development and they have need of huge developing space. Therefore, in the view of international politics, climate change has become a major international strategic issue, and appeared in G-7 Summit and also in the World Economic Forum^③. Pershing *et al.*^[6] pointed out that the Kyoto Protocol failed to enter into force as expected, mainly owing to the lack of international political will. Russia finally ratified the protocol. Despite many other considerations, the process itself is a problem of political will^④.

Economic interest is the inherent driving force and binding condition for climate agreements. Most of the socio-economic impacts of global warming are negative and with economic losses, and the greenhouse gases emission reduction is not cost free for increasing economic growth and consumption. As countries vary a great deal in socio-economic conditions and resources, forming a single commitment for the international climate agreement would bring conflicts of interests. As for the post-Kyoto climate agreement, most poor developing countries need to adapt to climate change, while developing countries in the process of industrialization would need larger development spaces, and excessive requirement for emission reduction would not be conducive to rapid development. For the European Union and Japan, with relatively stable and even declining population and limited scope for physical expansion, abatement has little impact but the adverse effects of global warming are huge. For the US and Australia, there is a quite different story. With vast territory and abundant resources,

③ In 2005 the Davos World Economic Forum ranked the global climate change as the third major challenge. See www.weforum.org

④ Russia made a full use of the international political card. As both the EU and US tried to seek alliance with Russia for surviving or killing the Kyoto process, Russia was able to gain additional emission quotas as well as concessions in WTO negotiations

and the population still growing, there is great potential for physical expansion of their economies. So the abatement costs in terms of their impact of the growth of the economy can be relatively high. This structure of the international interest will be the most important determinants for the post-Kyoto climate negotiations.

Scientific knowledge has its limitations. There exists great uncertainty in regarding the scientific knowledge of such a large scale and long-term issue as climate change. There is no major disagreement about greenhouse effect and climate change. But for the problems of its scope, speed and extent, the understanding is relatively limited and there are still many uncertainties^[5]. Just because of scientific uncertainty, it will lead to a diversity of possibilities for negotiation of international climate change agreement.

In the post-Kyoto negotiation process, political will, economic interest and scientific knowledge are not independent but interrelated and mutually influencing. The political will depend on the judgment of economic interest, while the evaluation of economic interest needs a solid scientific basis. In 1997, EU decided the target for the first commitment period of 15% emission reduction on the basis of 1990 emission level^[7]. However, in the Kyoto Protocol negotiations, the EU did not unilaterally accept this commitment, after taking into account the obligations of the United States, Japan and other developed countries, the EU negotiators commit to reduce emission by 8% instead. As it is political, economic and scientific factors interact much between each other, and there is huge room for manipulation. Furthermore, there are also multiform approaches to playing the game among the Parties of international climate negotiations.

2 Orientation choices

Basically, there are three broad directions for the post-2012 climate regime building: continuation of the Kyoto model, back to UNFCCC for a new Protocol and actions outside the UNFCCC process. The key difficulty of starting the post-Kyoto international climate negotiations lies in the Kyoto Protocol model: not easy to continue, but wasteful to give up. If the United States and the developing countries participate in the post-Kyoto process, one direction is to return to the Convention for further negotiations. But once returning back to the Conference of the Parties to the Convention, re-negotiation of a new protocol must go through

complex and lengthy procedures due to the difficulty to accommodate the interests of all the parties and the high transaction costs. Consequently, some countries may choose a process outside the Framework Convention, bilaterally and/or multilaterally, pursuing an approach of “the third way” independent of the UNFCCC negotiations.

The conclusion of Kyoto Protocol was not easily. From the Berlin Mandate in 1995 at the first Conference of the Parties to the Convention (COP-1) to 1997 when COP-3 completed negotiations for signing and ratification of the Protocol, then to the Marrakech Accord in 2001, the formation of the implementation details of the Kyoto Protocol, and finally on February 16, 2005 the entry into force, it took a lengthy period of 10 years. No doubt this agreement is the product of compromise among Parties. It takes into account the interest of most parties and is rich in technical details for practical operation. Ideally, it should be established as a model for continuation through amendments at COP meetings, in a similar fashion just as the Montreal Protocol on the protection of the ozone layer. But pursuing this option has two major obstacles. First, there exists strong opposition from the US. After its withdrawal from the Kyoto Protocol, the United States leaves no evidence for returning to the Kyoto mechanism; Second, taking attitude of developing countries, less developed countries are not highly interested in the emission reduction agreements. And the developing countries in the industrialization process, particularly large developing countries, consider that total quantitative commitments for emission reduction would limit their course of economic development. As a result, these countries are unlikely to accept the Kyoto model with an absolute cap. But on the other hand, since the Kyoto Protocol has entered into force, the Parties to the COP/MOP^⑤ may wish continuation of this hard-won process through amendment and extension with the support of the EU Parties and a few other developed country Parties.

Although the United States rejected the Kyoto Protocol model, it remains one of the Parties to the Convention. And almost all countries in the world are the Parties to the Convention. To obtain the participation of the United States and the developing countries, going back to Framework Convention is obviously the best choice. The Convention has clear agreed goals, principles, and mechanisms. If holding negotiations for new protocols based on the Convention, the road will be much wider and flatter, compared to the difficult path of the Kyoto Protocol.

⑤ Conference of Parties/Meeting of Parties (COP/MOP). It is held after the Protocol enters into force

However, re-negotiation of a new protocol under the Framework Convention has to encounter the conflict of interests among the Parties. The process may be a long term and the negotiation may be highly inefficient. This might induce some Parties to jump out of the Framework Convention, and take bilateral or multilateral, closed or open, actions for climate agreements as “the third way”. There have been some signals of evidence along this approach. Such as, the World Renewable Energy Conference initiated and committed to the development and use of renewable energies; the US Carbon Capture and Storage Forum is also as a selective participation. The Canadian government proposed to extend the Group of 20 finance ministers meeting model to climate change, using a G-20 (20 largest emitters) leaders’ meeting as a mechanism to address climate change^[8]. From the perspective of the importance of controlling greenhouse gases emissions, Pershing *et al.*^[9] demonstrated that actions by world top 25 emitters would be sufficient to cope with climate change. The advantages of the motions outside the Framework Convention are as follows: simple and efficient for decision-making. As long as there are shared interests, agreements can be created. Other nations may keep out, or may join in later. So the resistance is smaller. But their drawbacks are obvious: disregarding the Framework Convention, encouraging unilateralism, and limited coverage.

The above analysis shows that to keep on going the Kyoto Protocol mode is a difficult road, but it will not be blocked. The boat of the Conference of the Parties to the Convention will go forward to sail in the face of storms; but “the third way” independent of the UNFCCC is an active approach and the prospects look good. It must be noticed that the third way can be a supplement to and promotion of the Kyoto Protocol and the Conference of the Parties to the Convention processes. Actions outside the UNFCCC are not only unlikely to replace the first two options, but in the end they might be melted into them and be a part of a basket of agreements under the Framework Convention.

3 Subject of motion

The main reason for the orientation diversity in the post-Kyoto international climate negotiations is due to a multitude of subject of motion. The ultimate outcomes of the climate agreements are products of compromise of the Parties.

Although the US and developing country Parties do not like an absolute cap type target under the Kyoto Protocol, more than 2/3 of 44 proposals for post-Kyoto international

climate regimes as reviewed by Bodansky^[3] adopted the Kyoto total emission reduction model or its amendments. European Union and some advanced developing countries such as Mexico and Argentina would be the main drivers behind this approach. EU accepts a temperature limit of 2 °C increase by 2100^[10]. Accordingly, stable atmospheric concentrations of greenhouse gases and the total emission amount can be clearly calculated and obtained. A continuation of the Kyoto type agreement would be a topdown program for cutting a pie. Since some of the major EU countries, such as the United Kingdom and Germany, have made it clear to substantially reduce greenhouse gas emissions, the less developed countries will not oppose the approach, but will fight for a large share of allocation of emission quotas for business or other types of benefit, such as the projects of special funds for adaptation. As large and rapidly industrializing developing countries such as China, India and Brazil have ratified the Kyoto Protocol, they will not in principle oppose the continuation of Kyoto targets. However, in general they will still insist of “developed countries taking the lead in emission reduction” and “the developing countries being given priority to development”. Due to the need for development, it is unlikely that developing countries would make concrete commitments to emission reduction. However, for its consideration of international strategy, the United States will not return to the Kyoto pattern as long as it is the Kyoto formulae regardless of how the amendments will do. It is worth pointing out that the United States withdrew from the Kyoto Protocol and proposed the “emission intensity reduction” model as an alternative to the Kyoto model. Indeed, the intensity model and the Kyoto model are interchangeable for developed and stable economic systems. It will be also difficult to achieve the American intensity emission reduction targets. For developing countries, the risk of intensity commitment would be even higher than the total limit due to fluctuation of the economy and uncertainty. Therefore, intensity model will not become a substitute for the Kyoto agreement.

The Kyoto formulae of absolute emission limit and reduction are compatible with the goals set under the Framework Convention. Its amendment may become part of the international climate regime with other negotiated agreements under the Convention. Other agreements include: 1) the protocol for adaptation. The less developed countries are likely the subject of motion. The major reason lies in the fact that these countries have limited opportunities for emission reduction but suffer a great deal from climate change impacts. There are also adaptation problems in other

developing and developed countries. So this agreement will not meet political resistance in principle. In the view of economic mechanism, the key concern of the developed countries is to reduce emissions. However, they are unlikely to make commitments as developing countries would expect; 2) technological agreement, the core content of which is not abatement, but the technological development of renewable energy and energy efficiency, as well as research and application of carbon capture and storage technology. Because of technological and financial capabilities, the EU and the USA have been advocating cooperation on carbon capture and storage technologies and renewable energy technologies outside the current Framework Convention. Therefore, the technological cooperation may become main ingredients of the post-Kyoto international climate agreement. The framework of technological agreement by Sugiyama^[11] is in this way of thinking; 3) integrated sustainable development-adaptation/mitigation (SD-A/M) agreement. Whether it is the Kyoto Protocol amendment adaptation protocol or technological agreement, it has not considered the priorities of development for the developing countries. Developing countries may put on a motion of low-carbon technological development for emphasizing development. And the development is linked with adaptation, mitigation and technology. So there is a need to consider an integrated sustainable development framework. In such a scenario, there will be a comprehensive SD-A/M agreement of north-south compromise. The developing countries will lead this process for such an agreement. It needs to note that there will not be sustainable development policies and measures (SD-P&M) alone in the post-Kyoto climate agreement. This is because there are policy commitments in Article 4 of the Convention and Article 10 of the Kyoto Protocol, and the effects of policy measures need further assessment.

Initiatives outside the Framework Convention have come forth since the United States rejected the Kyoto Protocol and made intensity commitment in a unilateral manner in 2001. Subsequently the World Renewable Energy Conference and the Carbon Capture-Storage Technology Forum have developed multilateral initiatives. If the international climate regime in the form of "G-20 Leaders Climate Change Conference" comes true, the leadership role has to be taken by the developed countries. As developing countries are at a disadvantage in terms of economic, technological, financial and human resources, they may participate in or respond to the initiatives led by the developed countries. However, it needs to make clear that

the agreements or initiatives outside the Convention are the supplement to and promotion of the Convention process, and quite likely to be included in the Convention process.

4 Summary

From the above analysis, we can see that the post-Kyoto international climate regime is in a multi-wheel drive and pluralism trend. The Kyoto formulae of an absolute cap is an international agreement of zero sum game. If someone has more quotas, then others have fewer quotas inevitably; it is impossible to expand the total. However, if all the Parties are not involved in, there will be a "prisoner's dilemma" created, and then the potential damage of climate change may have disastrous results for humanity. Therefore, the post-Kyoto negotiation process will be probably a basket of agreements with a number of individual agreements including emission reduction, adaptation, technology, and development, similar to many agreements integrate under GATT (General Agreement on Tariffs and Trade, now the World Trade Organization, WTO).

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