

Global Energy Governance Reform and China's Participation

Consultation Report

Energy Research Institute, NDRC;

Grantham Institute, Imperial College London

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Disclaimer

This is a research report which does not represent the views of the Chinese or the UK governments. Our research is continuing and the research team will review our conclusions in the light of discussions and comments on this consultation report.

Introduction to the Steering Committee

This research was supported by the British and Chinese senior experts. A Project Steering Committee with international influence has been set up to provide guidance in the process of the project. In January 2014, the Steering Committee held a working meeting in Beijing. During the meeting the Steering Committee made suggestions for the report and the conclusions. The project has held discussions with senior officials of Chinese government, foreign governments as well as international institutions at policy-making level.

The Project Steering Committee consists of four members. Minister Zhang Guobao, Co-Chair of the Steering Committee, Chairman of the National Energy Advisory Committee of China and former Vice-chair of National Development and Reform Commission; Lord Browne of Madingley, Co-Chair of the Steering Committee, former Group Chief Executive of BP; Shi Dinghuan, Counsellor of the State Counsel and former Secretary-General of Ministry of Science and Technology; David Sandalow, Inaugural Fellow of the Columbia University Center on Global Energy Policy and former Assistant Secretary at the US Department of Energy.

Responsibility for the Report

The Joint Project Team wishes to express its thanks to many people in China and around the world who have contributed their ideas to this report, and for the general guidance of our Steering Committee. The contents of the report remain the sole responsibility of the Joint Project Team.

We welcome further comments on the report. Please send them to:

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Statement of the Steering Committee

Some of the most critical issues facing world leaders today are in the field of energy policy. Maintaining the rise of living standards and poverty eradication around the world requires a rapid continuing increase in the provision of energy. However a transformation is needed in the way that energy is supplied and used to address the equally critical problems of climate change and urban pollution. Meanwhile, concerns about energy security are resurfacing at a time of instability in some oil producing regions.

These are problems requiring global cooperation at the highest level. There is a high level of common interest and potential for cooperation. Unfortunately, today's institutions for global energy governance are fragmented and rooted in the 1970s before the rise of major developing nations, before the recognition of the threat posed by climate change, and when producer/consumer relations were more adversarial than they are today. There is a clear need for more inclusive structures that will enable China and other major developing nations to assume a position which befits their role in energy markets. There is also a need for closer cooperation between producing and consuming nations.

These reforms could make a vital contribution to the security of energy markets, mitigating climate change, promoting technology collaboration and innovation, and supporting poverty eradication.

The G20, on which major developing and developed nations are represented on a basis of equality, has an essential part to play. We call upon the G20, at their meeting in Brisbane on 15 and 16 November, to deliver a strong message on the need for these changes and to adopt a continuing leadership role in bringing them about.

The Energy Research Institute of China's NDRC, and the Grantham Institute, Imperial College London, are working together on this topic. We have agreed to serve as a Steering Committee. Today we are releasing their discussion document, for the first time in both Chinese and English. This contains detailed proposals for reform.

China is already increasing its participation in existing organisations of energy cooperation, and working to enhance its role and to accept its share of responsibility for leadership on global energy issues. China is also advancing its own revolution in energy production, consumption, technology, and management systems.

A process of consultation and confidence building should now begin between the IEA

and major developing nations, towards the creation of an inclusive body for international energy cooperation, committed to free and open international energy markets. This can be achieved through evolution and expansion of the IEA. The IEA should open its doors, in principle, to major developing countries. The consultations should also consider the development of constructive relations with OPEC producing countries, working with the International Energy Forum.

The IEA's current Association proposals are a welcome step in the right direction, which we support. But the restriction of IEA membership to OECD countries is a formidable barrier which limits what can be achieved. There is a strong argument for building on existing institutions wherever possible, but if this problem cannot be solved it may become necessary to create a wholly new body for global energy cooperation.

We recognise the important contributions of the IEF, the Energy Charter Treaty Organisation, the Clean Energy Ministerial, and the many bodies specialising in particular areas of energy policy and technology. A genuinely global body for energy policy cooperation could provide a centre to help focus and coordinate their work.

Executive Summary

Energy is a global issue. The main objectives of energy policy, to support sustained economic growth through affordable, stable, secure energy supply, eradicate fuel poverty, and to protect the local and global environment can only be achieved through international cooperation.

The global energy landscape has changed dramatically in recent decades. Big emerging economies, including China, have become major players and the main focus of energy trade has shifted to the Asia Pacific Region. The volatility of energy markets is a special concern for both developed countries and these countries experiencing rapid economic growth. Relations between OPEC and the energy consuming countries have matured and although differences remain, there are now many areas of common interests. Climate change has become recognized as a great threat requiring the enforcement of a strong international agreement with major energy policy implications. And the shocking fact remains that nearly 1.3 billion people are without access to electricity and more than 2.8 billion people rely on traditional, unhealthy biomass for cooking.

We have carried out extensive international discussions on whether today's international energy governance mechanisms, and especially the role that China plays, are fit for purpose in the modern world. Our consultations are far from complete and we are making this report as a consultation document to stimulate debates and comment and to help us reach our final conclusions.

We believe that the international energy governance mechanism has not kept pace with the changes in world energy and that energy governance reform is needed to enable the major developing countries to play their necessary role, to reflect the shift of energy trade to the Asia Pacific region, to improve cooperation between producing and consuming nations, to promote international investment and address the causes of market instability, and to pursue climate mitigation and support low carbon development options and fuel poverty eradication, all with real urgency.

In Section 2 of our report we review the main existing institutions of international energy governance. It is not our intention to belittle the achievements of these existing bodies, many of which have made huge contributions in their existing roles. There are strong reasons for adapting existing institutions, rather than creating new bodies, if this can be achieved, at least in the short term. However, reform of existing bodies can also be difficult and it is possible that new bodies will be needed in the

longer term.

We have identified the following as the main themes of energy governance reform:

- Strengthening the concept of a common global energy security;
- Addressing the environmental challenges of climate change and local pollution;
- Strengthening international cooperation in multilateral mechanisms, share the best practice in energy exploitation and use;
- Strengthening existing energy governance mechanisms;
- Jointly building a new framework for international energy cooperation, including energy and financial cooperation;
- Extend the current financial analysis of commodity markets into the energy sector;
- Establish dialogue on policies that impact the stability of key energy producing regions;
- Improve energy market transparency and quality of statistics;
- Establish an effective strategic reserve mechanism;
- Improve fairness in energy trade and energy investment;
- Jointly promote the improvement of energy efficiency, energy innovation and advancement, dissemination, transfer and application of new energy technologies;

Our main conclusions are set out in Section 3 of the report. First of all, the international governance framework needs to better reflect the requirements of emerging and developing countries and more mature relations between OPEC energy producers and consumers should be established. This requires:

- A greater role for the G20 in providing leadership on energy governance reform, possible through a new Working Group.
- Reforms of the IEA to enable it to play a genuinely global role. The IEA's Association Proposals are a first step and making a success of them should be a priority for the IEA. This will require a substantial realignment of the IEA's agenda towards the interests of developing countries as well as a more international approach to energy policy on the part of China. The IEA should also lift the restriction of its membership to OECD countries. Upgrading the cooperation between the IEF, OPEC, and the IEA can create a shared understanding of energy markets and address the causes of instability.

We make recommendations to update and upgrade emergency response mechanisms, strengthen international laws and regulations for investment protection, support developing countries in the development of their low carbon strategies, and build more robust regional dialogues.

China has emerged as a major player in the global energy market, but China is still inexperienced in global energy affairs. Just as stated in the Third Plenary Session of the 18th CPC Central Committee that China needs “to push on with modernization of the country's governing system and capabilities”, China needs to develop modern capabilities for participation in international energy governance as well so that China can make full use of existing international frameworks and fully participate in shaping and developing international rules and institutions. We make a number of recommendations on how China can build this capacity.

To be able to participate fully in international energy governance China will need to pursue more open and internationally minded energy policies and to make a greater effort to explain Chinese energy policies to the international community. We make some proposals on how this can be achieved.

Introduction

"China and Global Energy Governance" is a joint project of China's Energy Research Institute of the NDRC and the Grantham Institute, Imperial College London. The existing global energy governance framework was established in the 1970s. But with the increasing importance of emerging economies in the global energy landscape, it is no longer fit for purpose. The project aims to be engaged in extensive discussions with a wide range of international experts, and to address the most debated issues as well as their solutions in the field of global energy governance. On the one hand, the project intends to propose to relevant international organizations several suggestions for the reform of global energy governance, and to encourage China and other major developing countries to participate more in considering policy options of global energy governance, so that these countries can gain support from these platforms as a framework for further discussions. On the other hand, the project aims to provide Chinese authorities with prospective analysis and policy suggestions on improving the quality of China's participation in global energy governance.

In order to achieve the above objectives, the Joint Project Team conducted the following research activities:

- Established the "Steering Committee" with leading Chinese, British, and American experts to contribute project guidance¹.
- From September 2012 to March 2013, the Project Team conducted visits to energy authorities and think tanks in China, the UK, and the US as well as international organizations such as the International Energy Agency (IEA) in Paris and the Energy Charter Treaty Organization in Brussels. We held discussions with more than 80 senior experts. The Project Team has listened to their views on the reform of global energy governance, and has gained an enhanced understanding of emerging economies' needs in global energy governance and the expectations from the international community of the emerging economies².
- In September 2012, a member of the Project Team gave a speech on "Global Energy Governance Reform" at the Beijing Energy Club and members of the team took part in discussion and listened to expert views.
- In September 2013, the project held an international seminar entitled

¹ See Introduction to the Steering Committee

² See Annex: Project access institutions and individuals

"Global Energy Investment and Global Energy Governance", to explore, from the perspective of the oil and gas industry, the role of the global energy governance framework for energy investments and the status of Chinese overseas energy investment.

- In January 2014, the project held the "Steering Committee Working Meeting" to seek census on global energy governance among committee members, and to evaluate and modify the draft consultation report.
- In March 2014, the project held an international seminar entitled "China and Global Energy Governance", and published a draft report in English while incorporating the views from international senior experts.
- In February and August 2014 members of the Project Team presented on our work to the Energy Sustainability Working Group of the G20 in Melbourne and then Brisbane.

The study involves a wide range of issues on global energy governance, including reform of the global energy governance structure, promoting G20 leadership in terms of energy policy options, further cooperation between the International Energy Agency (IEA) and China and its "Association Proposal", the promotion of the Energy Charter Treaty, the prospects of "BRICS Network Multilateral Energy Cooperation", regional energy cooperation, global energy cooperation proposals to boost economic development, China's role in existing institutions of global energy governance and climate change, China's oil companies' role in global energy securities, etc.

Global energy governance is a dynamic discipline. This study aims to start from a blank sheet. Through widespread discussions of the core objectives and principles of global energy governance, the project examines objectively the failing aspects of the existing global energy governance framework, and tries to find solutions to fill the gap. Discussions should be comprehensive, with both consumers and suppliers, developed and developing countries. Discussion should also be consistent and dynamic. As the achievement of the first phase, this report summarizes the results achieved so far and ideas of further reform options. It's expected that this will trigger a broader and more in-depth discussion in the international community and, ultimately, lead to more consensus.

We are grateful for the advice of many international experts and for the guidance of our Steering Committee. However, responsibility for the content of this discussion document rests with the Project Team.

1. Trends of global energy governance reform

The main institutions that constitute the current pattern of global energy governance emerged 40 years ago. The establishment of OPEC in 1960 and the subsequent oil crises largely stimulated a broader and deeper development of global energy governance. The International Energy Agency (IEA) was established in 1974, under the OECD framework, largely as a response to the perceived threat from OPEC. The International Energy Forum (IEF) was established to improve the dialogue between energy producing and consuming countries. IEF held its first meeting in 1991. From 1990s, the need to address climate change, the promotion of technology transfer, and the need to strengthen regional cooperation, has broadened the original objectives of energy governance. As a result, more institutions have been established with more specific roles such as the United Nations Framework Convention on Climate Change (UNFCCC, established in 1994), the Clean Energy Ministerial (CEM, established in 2009), the International Renewable Energy Agency (IRENA, also in 2009), the Global Carbon Capture and Storage Institute (GCCSI, also in 2009) and so on. Meanwhile, energy governance has become an increasingly important topic for major global and regional economic governance institutions, including the Group of Seven (G7, established in 1976), the Group of Eight (G8, established in 1988), the Group of Twenty (G20, established in 1999) representing the rise of newly industrialized countries, and the Shanghai Cooperation Organization (SCO, established in 2001).

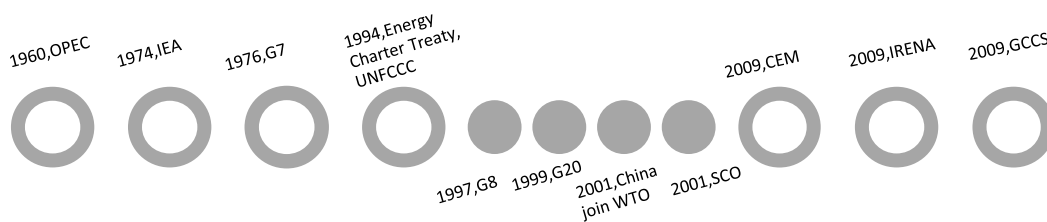


Figure 1. Timeline of the establishment of leading energy/economics governance institutions

In this study, global energy governance means "to cooperate on energy policy through multilateral mechanisms of intergovernmental cooperation." Global cooperation is essential as all the countries are facing the challenges of global energy security and climate change while no one can solve them alone. The current formats of global energy governance mainly include:

- Discussion and cooperation platforms, including some of the intergovernmental and regional organizations such as the G20, the International Energy Forum, the Clean Energy Ministerial and so on. These organizations provide platforms for high-level policy-makers to meet regularly and discuss issues of global importance and seek consensus. These platforms do not have legally binding structures, and some are loosely organized, which may give them greater flexibility but it also means that their conclusions are not binding.
- Legal and protocol mechanisms, such as the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, the World Trade Organization (WTO), and the Energy Charter Treaty and so on. These platforms can establish enforceable international rules.
- Coordination mechanism such as the strategic oil reserve emergency mechanism under the International Energy Agency (IEA) which serves as an emergency response when the oil supply is cut off.

These are the major institutions which together form today's global energy governance structure.

1.1 Defects in the current global energy governance structure

The past few decades have seen rapid changes in the global patterns of energy markets. First, the balance of supply and demand has changed. Shale oil and gas around the world have shown great potential. Dependence on foreign energy of North America has dramatically declined. The United States is still in the process of self-repair after two wars and the financial crisis. Europe sees a sluggish recovery after the spreading debt crisis. The growth of energy consumption in developed countries is limited, while it is increasing dramatically in developing countries due to higher economic growth, leading to a shift of focus of world energy trade to the Asia-Pacific region. Second, global warming and climate change have been recognized as common challenges, and the need for low-carbon technologies to protect the global and regional environment has become increasingly urgent. Third, global energy geopolitics factors (e.g., Middle East, North Africa, Iran, North Korea, Russia, and Ukraine) affect the oil and gas markets and add to their instabilities and uncertainties. The above changes have highlighted the importance of international energy cooperation in maintaining the balance of the international energy market and in sustaining global growth and world harmony. Energy is a global issue. No country alone can achieve national security of supply, and global cooperation is

needed to protect the stability of the international system, and provide adequate and affordable energy supply. Energy security in the new era is no longer limited to oil security but also concerns natural gas, electricity, and the environment. Global energy governance is becoming an increasingly important issue.

As mentioned earlier, it has been 40 years since the current global energy governance structure was formed in the 1970s. Huge changes in the global energy economy have led to the obsolescence of the original energy governance framework. The current global energy governance structure has shown the following main shortcomings:

- **It is not competent to represent the interests of emerging and developing countries.**

The existing governance structure, led by the United States and other developed countries, does not include and cannot adequately represent emerging and developing countries. The International Energy Agency's (IEA) energy security mechanisms are not as effective as they were when it was first established. Developed countries believe that they carry the main responsibilities for maintaining global market security, and that developing countries are not taking enough responsibilities corresponding to their increasing energy demand, especially in the fields of supply crisis, climate change, and eliminating energy poverty. Emerging countries lack an equal say in the governance of energy development and technology transfer. As relatively recent comers their international energy investments tend to be in politically unstable, remote and high-cost areas. They expect a greater voice in global energy governance.

- **It lacks an effective dialogue between energy producers and consumers.**

With the increasing globalization of energy market, the relationship between energy producing and consuming countries is no longer so antagonistic. There should rather be more cooperation and dialogue between them. A greater degree of global cooperation is needed to achieve the energy policy goals of all major market participants and to disseminate energy technologies. However, mainstream energy governance institutions, linked to the OECD, have not entirely got rid of the original intention of countering producing countries, and to some extent this is still an obstacle to closer cooperation between producers and consumers. The IEA is the main governance institution for energy consuming countries, while OPEC is the main governance institution for energy producing countries. There is no global institution that represents the mutual interest of both energy producing and consuming

countries. Although the International Energy Forum (IEF) includes both consuming and producing countries, there is a need to strengthen the capacity of its secretariat as the IEF is still not effective enough as a decision-making mechanism.

▪ **It cannot cope with the new risks rising from the multi-polarized energy supply.**

Existing energy security governance mechanisms were designed primarily for oil supply security. During the 1970s OPEC accounted for about 40% of global oil supply, and the strategic reserves of the IEA emergency response mechanisms provided a good counterbalance. However, with the development of the international energy market, and the emergence of more energy producing and consuming countries, the global energy market has become multi-polarized. The main risks of the global energy market have shifted from supply disruptions to price volatility. Meanwhile, the North American shale gas revolution has brought a series of chain reactions. Energy price has been impacted by the reduced demand for coal in the US, and there has been a change in global energy trade flows. Japan's Fukushima nuclear accident also had important consequences for nuclear energy supply policy and global energy markets. At the same time, the emerging countries with increasing energy demands are at greatest risk from price volatility and still lack an adequate voice on energy governance; emerging countries with increasing energy supply have different understanding of energy prices from those traditional producers. These changes need to be taken into account in the global energy governance framework and require timely analysis and response. However, the current global energy governance mechanism is slow to respond to these needs.

▪ **The current functions cannot meet the diversified aims of governance, and there are “blind spots”.**

The functions of the current institution are to some extent absent and dislocated. The “blind spots” in governance include:

- Lack of large developing countries' voices;
- Lack of financial regulatory mechanisms in energy markets;
- Lack of mechanisms which can not only protect intellectual property in the field of energy, but also promote technology transfer;
- Insufficient understanding and lack of dealing mechanisms of energy poverty;
- Lack of international governance for climate change and low carbon policies.

Although the United Nations Framework Convention on Climate Change (UNFCCC) and other international conventions are working towards an agreement on climate mitigation, no international institution is effective in promoting the development and implementation, across the board, of the low-carbon energy policies and technologies that are required;

- Lack of disputes mechanism of energy transport. Besides energy price, energy transportation is another factor that has significant influences on energy supply. The key international energy transportation lines are mostly controlled by the US and Russia.
- Lack of effective mechanisms to address energy trade disputes. Due to the financial crisis, energy investment from developed countries is decreasing, while energy investment from developing countries is inevitably subject to political uncertainties. There exists the risk of the rise of inappropriate trade protectionism. Though the Energy Charter and WTO have made important contributions, the international regime to settle energy trade disputes is far from perfect.

Overall, it is widely recognized that reform of the current global energy governance mechanisms is needed. The changes in the global economic landscape further underline the need to deepen the global energy governance structure in a multi-polar direction, reflecting more diversified governance objectives. But it should also be noted that some issues cannot be resolved by multilateral mechanisms but rather through bilateral negotiations. What can be achieved through broad-based global energy cooperative mechanisms is probably limited. However, bilateral relations between major powers and relations between international institutions and states should become a part of the global energy governance model design.

1.2 Core objectives of global energy governance reform

How can we best improve and adapt existing global energy governance structures to adapt to the globalization of markets, the multipolarity of supply and demand, to deal with new risks and to better cooperate?

Based on extensive discussions with international experts, this study suggests that the general purpose of the global energy governance is to protect the security, stability and sustainability of the global energy system, and to assist governments to achieve sustainable energy development goals.

First, promote energy security with sustainable economic growth, including stable

supply, affordable prices and safe channels. It is rather important to understand the different views of rational energy prices between energy producing and consuming countries, especially between oil producing and consuming countries. Second, in order to protect the global and regional environment, find ways to minimize local pollution and mitigate global climate change in the processes of energy production, transport, conversion, and consumption. Third, ensure energy market efficiency and enhance market transparency. Fourth, ensure adequate international energy investments to meet the growing energy demand and transition needs. Fifth, ensure the use of best practices for energy efficiency and clean energy technologies. Sixth, promote equality, by making sure all energy consuming countries enjoy the same secure access to energy markets, and by dealing with energy poverty.

The core objective of global energy governance reform is to build a new governance structure which adapts to the current and future trends of global energy economic development, and meets the purposes of global energy governance described above.

The process of global energy governance reform should seek common principles widely recognized by the international community. These principles will be the core values of new global energy governance architecture, and provide the cornerstone. These principles are as follows. First, focus on common interests and goals. Some goals that already have a broad consensus on a global scale, such as the United Nations millennium development goals, should be the cornerstone of global energy governance. Second, resolve differences and achieve policy consistency between major countries. Developed and developing countries should learn from each other. It will be difficult for developed countries to design the new governance architecture alone; meanwhile, there is a lack of governance census between developing countries. Global energy governance should act as a discussion platform for cooperation on major global policies so as to avoid ineffective efforts going in different directions. Third is the importance of equality. No country should have the right to impose agreements on other countries. Each country should have equal rights to raise issues.

1.3 The key areas of global energy governance reform

The new global energy governance framework should play a role in the following key areas.

Area 1: Global energy security and market governance mechanism

Energy security is a core necessity of global governance. Updating the emergency

response mechanism is important for energy security. The current mechanism is led by the IEA. However, with increasing independence of energy imports, the US, which is the largest member of the IEA, may have less direct need of this mechanism. The US will still have an important stake, nevertheless, in the stability of the global oil price and of the global economy. However, this change in the US's situation raises some uncertainty. Energy supply crises, including oil crises and the increasing LNG trade should all be considered within the scope of global energy governance. China needs to develop its role and the role of IEA, and other major international organizations also need to be developed to coordinate responses beyond the traditional IEA membership.

First, based on the IEA's emergency response mechanism, the functions of the mechanism for oil security should be expanded, and mechanisms should be created, aimed at addressing not only supply disruptions, but also extreme price fluctuations. The major international bodies need to work together with wider participation from consumer countries to jointly cope with supply crises.

Second, minimize the volatility of energy prices by improving price formation mechanisms. Moderate price fluctuations are integral parts of the market to achieve its function. Global energy price governance aims at avoiding fierce price fluctuation caused by financial speculation, lack of market transparency, lack of investment and geopolitical factors. Meanwhile, one of the problems is that the physical price benchmarks which should have played the key roles are not functioning well. The West Texas Intermediate (WTI) price of the US is now out of line with global oil markets, while the Brent crude oil production volume, on which so much oil trading is based, is small and declining. Moreover, these two benchmarks do not reflect transactions in the Middle East. The Oman and Dubai benchmarks are only applicable to the Western market rather than the Asian market where needs are enormous. There is a need for more effective benchmarks that better reflect prices in the main international markets. However, it is crucial for the new benchmark to avoid the current problem of invalidity.

Third, ensure the market transparency and effectiveness by improving the availability and quality of energy statistics. What needs to be emphasized is that some developing countries have different energy statistical systems which are defective, for example, the coal statistics of China are inaccurate, and the industrial categories used for energy end-use are different from those of OECD and other countries, which leads to a situation where the data from different countries cannot be comparable.

Fourth, pay attention to the speculation and financial governance. Speculation has

good and bad effects, and there is still no academic agreement whether speculation distorts the prices. However, it has been proved that there are correlations between the international oil price and financial factors. The US Energy Information Administration (EIA) and the Energy Research Institute (ERI) of National Development and Reform Commission of China have carried out a special joint study on the impacts of the financial market on oil price. The findings are that the impacts exist in the short term, but in the long term the market should be directed by market fundamentals. The study is still in progress because the evidence is not so clear considering the complexity of the financial system. The main regulatory body in this field is the International Organization of Securities Commissions (IOSCO), which bears two main responsibilities: financial regulation and monetary policy. The establishment of a new international financial exchange rate mechanism will have a tremendous impact as it improves currency convertibility and make it easier to hedge in Asian currencies. Chinese currency convertibility will change the global market, and create new opportunities to hedge price fluctuations in Asia. There is no tool at present to correlate the Asia demand and the trend of the trade. In addition, some governments are also enhancing financial regulation.

Area 2: Global energy (petroleum) emergency management and strategic reserves

At present it is mainly on the oil market that governments hold energy reserves and operate emergency management mechanisms, although there is an argument for extending this to gas, and particularly to liquefied natural gas (LNG). Discussions continue on how international cooperation on oil reserves can be established. Proposals for cooperation between China, Japan and Korea for East Asia market cooperation have not been successful. The IEA has established a sound emergency response mechanism which is confined to OECD countries without China's participation. At present China does not have the domestic legislation for publishing details of its oil reserve and does not have a sound statistical information system. The international society believes that data on China's oil reserve and its changes are necessary for consumer countries to confront the fluctuations of the oil market together.

Area 3: Green, low-carbon, environmentally friendly energy development, tackling climate change and energy efficiency cooperation

These are amongst the most daunting challenges facing global energy governance, and include the following areas:

- Climate change governance;
- Carbon trading and carbon transfer mechanisms;
- Clean Development Mechanism (CDM);
- Promoting development of renewable energy and new energy, as well as low carbon energy sources;
- Promoting the use of Carbon Capture, Use and Storage;
- Coordination of policies for environmentally safe energy use.

The UNFCCC should remain as the legitimate forum for climate negotiations, but energy governance has a vital role in relation to the low carbon energy policies that will need to underpin the success of the UNFCCC.

Area 4: Emerging energy industry development governance

The development of new energy industries is important not only for dealing with climate change and environmental challenges, but also as a powerful new driving force for economic recovery and development. Governance requirements in this area include:

- Promoting the development of advanced energy technologies and mechanisms used to support clean technology policy;
- Renewable energy and new energy policies, resolving energy and energy equipment trade disputes;
- Transfer of energy technologies to promote energy security as well as climate mitigation;
- Promoting energy innovation. Protect the necessary investment on energy innovation, as well as proper access to intellectual property (IP) for innovation while also protecting the legitimate interests of developers.

Area 5: Regional energy cooperation and governance

Regional energy cooperation needs to concern more detailed governance issues, including:

- Cooperation in energy poverty;
- Regional environmental protection, including air and water quality;
- Regional cooperation, such as the issues concerned by Shanghai Cooperation and the regional grid cooperation promoted by Energy Charter Organization.

1.4 Objectives for China's participation in global energy governance

China has become the world's largest energy consumer and the largest energy producer, the second largest importer of crude oil and a leading country in renewable energy developments. It is a pivotal country in the world's energy affairs and catches much attention from international society. However, the role of China as well as of other emerging powers in global energy governance lags far behind their status in the world economy, which is not reasonable. The reform of global energy governance provides China with a strategic opportunity, as China could use peaceful means to influence international rules in the energy area through participation in global energy governance. China, and other developed and developing countries should play their unique roles and should share responsibilities in global energy governance. China needs to make energy policies that are more outwards, and broaden its international perspective. Meanwhile, international institutions also need to adapt so that China and other emerging countries can participate.

As an emerging power, China is a new participant in the global energy governance structure, that is to say, while having joined a lot of organizations, the level of cooperation in which China is involved is still limited. China joined several intergovernmental institutions concerning energy including relevant bodies of United Nations, G20, and other regional organizations like APEC. China also has some involvement with the International Atomic Energy Agency (IAEA) and has maintained a good cooperation with the International Energy Agency (IEA), which is the mainstream energy organization, but China is not a member of it. (For detailed analysis of China's existing and potential role in the various agencies see Chapter 2) China's limited role in today's global energy governance architecture greatly weakens its effectiveness. The defects of the global energy governance architecture, (referred to above) are all related to the limited participation of China and other developing nations. The IEA's emergency response and petroleum reserve mechanisms are good examples. Meanwhile, China's own energy policy is also hampered by China's limited participation in global energy governance. For instance:

- China's limited experience of international energy governance has impaired China's effectiveness in influencing international energy policy. China has paid membership fees for participating in international agencies, but little concrete progress has resulted;
- China lacks an international voice in key areas such as energy markets, emergency response, etc.;

- China sometimes encounters unfair treatment in international energy investments;
- China is not able to make the most skillful use of legal means to protect it in the face of international trade disputes.
- The positive contributions of China to the international energy market, including overseas oil and gas investment, and the contribution of new energy products and manufactured goods, often does not receive due recognition, but is sometimes received with suspicion and accusations.

Therefore, both from an international and from a Chinese perspective, enhanced participation of China should be seen as a primary goal of international energy governance reform. Discussion of China's participation in global energy governance is a vital first step towards reforming the global energy governance framework.

China's participation in global energy governance holds the following main objectives and requirements.

First, maintain global and Chinese energy security. Global energy market activity is closely related to the vital interests of China. China has been largely self-sufficient in energy since the reform and opening up. However in recent years, China has become a net importer of coal in spite of its rich reserves. China is also highly dependent on imported oil and, therefore, on international oil markets. Natural gas imports have also been rising rapidly in recent years. The developed countries are experienced in managing oil as not only a resource, but also a geopolitical and financial tool, such as futures trading. China is only able to manage the resource property of oil so far, and is less involved in financial aspects. China has been a relatively passive participant in the global oil market, which is reflected in the overall lack of influence on price and import sources and pipeline rights. Enhancing the security of the global oil market is thus an important goal of China's participation in global energy governance.

Second, avoid the risk of energy price volatility. International oil prices have increased by three times in the last 10 years. The volatility of oil prices is a great burden on the global economy, and has especially negative impacts on the China's economy. An increase of \$1 per barrel of oil price could cost China more than \$2 billion. Changes in international oil price affect international energy affairs, and China needs to participate actively to respond to this risk.

Third, facing the global governance and obtaining help to respond to the huge pressure on emission reduction. The vital need to respond to climate change has become an international consensus. Due to different national conditions and different stages of development, this problem is more complex than the energy

market issues. Through the UNFCCC international system and platform, emission reduction commitments have increased, but at present greenhouse gas emission reductions, and the commitments of states to control global warming emissions, still fall short of what is needed to meet the promised emission reduction targets and the 2°C target by 5 to 10 billion tons. Hence there is a need for an international emissions reduction framework to distribute responsibilities fairly among countries. This creates a paradox: how to reflect the common but differentiated responsibilities? Developed countries need to take the responsibility of historic emissions, and also control future emissions. Developing countries need to balance emissions reduction with the need for economic development. Meanwhile, China also needs to participate in the process of setting an international emission reduction path, including setting the path of China's own emissions reduction, taking account of the changes of the energy structure, such as the reductions in the share of fossil fuels and the increase of new energy technologies. China's progress in these areas will contribute to the world in responding to climate change.

Fourth, promote new cooperation on energy efficiency and renewable energy.

China should enhance cooperation within the international renewable energy platform, promote the global renewable energy technology cooperation, the elimination of trade barriers, cost reduction, and the pace of domestic energy restructuring. Meanwhile, China needs to better interpret its achievements in renewable energy development and to share its experience with the world. Similarly, China's vital strategy for energy-saving and emission-reduction and its great contribution to world energy efficiency are of great significance to the world.

Fifth, meet the demand for energy technology innovation by utilizing international resources.

The substitution of new and renewable energy for fossil fuels is especially important for China not only because of the insufficiency of energy resources inside of China, but also because of China's responsibility for emissions reduction. There is a global need for advanced energy technology innovation, which includes the need for the rapid development of energy efficient technologies, technologies for the reduction of conventional pollutants (including regional pollutants SO₂, NO_x, etc.), and global pollutant (CO₂) emission reduction technologies, renewable energy technologies, and energy storage technology. The development of technology requires extensive international cooperation but also results in intense competition. Therefore, an international regime is needed to reflect the interests of different countries, and to remove barriers of the transfer of technology. There are two main aspects: First, trade protection. Technology transfer can lead to a decline in the competitiveness of domestic enterprises, which results in protectionism. It is

important to integrate China to promote further development of new energy with low costs. Second, we need to make rational use of the intellectual property system. Appropriate protection of intellectual property rights is needed to encourage innovation, but overprotection is not conducive to technology transfer. Developed countries have a legal obligation to support developing countries with funds and technology. We need to find appropriate ways to adapt the intellectual property system to new energy technologies so as to achieve a smooth transfer of technology to developing countries, which is a global benefit. However, it is also equally important to protect business benefits, which requires efforts to improve the framework of regulation at government level.

Sixth, respond positively to international expectations. The international community expects China to improve the quality of energy data, including information on oil reserves and its consumption. Also, if the relationship between the Chinese state-owned energy companies and the government was more transparent, it would help reduce the mistrust and sensitivity that surrounds China's overseas investment. China needs to participate in global energy governance processes to respond to these expectations, in order to open the door to more efficient participation in the global market activities.

Seventh, contribute to the alleviation of international energy poverty. In recent decades China has achieved the greatest poverty relief in the history of mankind. China is now well placed to keep on cooperating with other nations and through multinational organizations to contribute towards lifting energy poverty both domestically and around the world.

China accounts for one fifth of world energy demand. By raising the status of the developing countries, adhering to the principles of equality and mutual benefit, China could play a more constructive and active role in global governance. This helps both global energy markets and China's own energy development.

2. Reform of major global energy governance platforms and China's participation

In preparing this study, we have visited major energy governance institutions including the International Energy Agency and the Energy Charter Secretariat, and have discussed the reform of energy governance with energy authorities and experts in China, the United Kingdom, and the United States. The lack of key market participants (such as China and other BRIC countries) in current major international energy institutions makes it difficult to achieve objectives of energy governance. However, the effectiveness of an organization is often inversely proportional to the number of its members - the larger a body is, the more difficult for its members to reach consensus, leading to less efficient process. In order to realize the effectiveness of energy governance institutions, we need to objectively evaluate its operational mechanisms and explore possible options for reform of the existing mechanisms, on the basis of clearly defining institutional governance goals.

2.1 THE INTERNATIONAL ENERGY AGENCY (IEA)

The basic functions of the IEA include energy market statistics and analysis, energy projections, technical cooperation, policy analysis, establishment of best practice and emergency management. The IEA is an important platform for wide discussions on international energy policy issues, with strong market data analysis capabilities. But as a tool for global energy governance, IEA's function has been severely constrained due to the restriction of its membership to the OECD countries and its history of antagonistic relationship with OPEC.

Established in 1974, the IEA is a treaty organization with the primary objective to respond to the Arab oil crisis. In 2013, the IEA had 28 member states. Today, the IEA is one of the most influential global energy cooperation agencies, with key functions including:

- Reporting on oil and gas market;
- Providing international energy data;
- Coordinating emergency preparedness and the use of strategic reserves;
- Evaluating energy policies of the member states;
- Publishing Influential reports such as the World Energy Outlook, Energy Technology Perspectives, Interim Oil and Gas Report, monthly Oil Report, as

well as energy statistics, energy balance, energy prices and other annual, quarterly, monthly publication series;

- Technology networks.

In addition to its original aims, the IEA now has an important role in the mitigation of climate change through its programmes on energy efficiency and renewables technology and deployment.

The original IEA treaty restricted membership to OECD countries. However, this treaty (the International Energy Programme) is largely outdated and the IEA now operates, almost entirely, on the basis of agreement. This is a matter for the IEA's Governing Board to consider, but it is not absolutely certain that the treaty would need to be amended for China, or other non-OECD nations, to become *de facto* members.

The IEA generally operates by consensus, but there are voting procedures which, in some cases, require the approval of 50% of members or 60% of "weighted" votes. Most members are European countries as all EU countries participate individually. The US has about a quarter of the weighted votes, and European countries together about half. Japan holds the second most weighted votes after the US. Voting is fairly common for the appointment of the Chairman and the Executive Director of the Agency, but rare in other cases. The Treaty provides a voting procedure for the release of oil reserves, but these original treaty mechanisms are cumbersome, and to some extent outdated. In recent years, a more simplified procedure based on consensus has been used.

Is the IEA led by the United States or Europe? The United States has the largest voting rights of any individual IEA member country (followed by Japan), and has a strong strategic influence on IEA decisions. But if all European member states act together then Europe has the strongest voice. Of course the countries with the most votes also pay the largest contributions.

In recent years the Executive Directors have generally been Europeans (except the last incumbent who was Japanese) but the Deputy-Executive Director always comes from the US. As to oil security, the department responsible for petroleum (including the Strategic Petroleum Reserve and emergency response) has been led by the Japanese (reflecting Japan's concerns for the security of the global oil market). Generally, the IEA is considered to be an organization with manifestation of a broad consensus of member countries. Personnel recruitment is theoretically limited to OECD member countries through fair competition. Over the years the employment

of staff has broadly reflected membership weights.

▪ **Reform discussion**

With the rise of major developing economies, the IEA's role as a genuinely global energy agency is already under threat. The IEA's role in the global energy market is currently on the decline, and the IEA is fully aware of this. Energy governance reform based on the IEA has received a lot of attention. Specifically, the IEA has proposed an "Association Partnership" in 2012, with Brazil, China, India, Indonesia, Mexico, Russia, and South Africa. The seven countries include BRICS countries. At the IEA ministerial meeting in November 2013, six countries (except Mexico) signed a joint statement, expressing willingness to further discuss the association proposition.

The IEA association initiative originally aimed to establish a coalition organization between these seven countries and the IEA members. These countries would hold a meeting twice a year, with one co-chair from the IEA members and the other from these seven countries. Like the IEA Governing Board, these meetings would be high-level meetings with senior officials' participation. Association countries would also have the opportunity to participate in the Governing Board of the IEA.

The coalition organization would be established through an "umbrella" agreement, and would determine goals of cooperation between the IEA and association countries. The IEA would also sign a more specific cooperation agreement with each association country. The IEA identified the following four areas for cooperation;

- Energy data and statistics;
- Energy security (including oil emergency planning);
- Energy technology (including energy efficiency and renewables);
- National energy policy evaluation.

Although these proposals have not been withdrawn, current discussions between the IEA Secretariat and Association partners are concentrating on the needs of partner countries individually and the benefits that they would hope to achieve through closer association with the IEA.

The IEA's reform depends on its willingness to open up. This study suggests that, if the IEA has the ability to reform itself and to provide a platform based on true equality and cooperation for both developed and developing countries, with the corresponding adjustment in its work priorities, agenda, and entry criteria, then the IEA could regain the key position in global energy governance. Otherwise, the shortcomings in global energy governance can only be addressed through a new organization.

▪ **China's participation**

China has been cooperating with the IEA as an observer country. China already has a "Joint Statement" with the IEA which sets some common principles and programmes of joint activities. China has at times participated in the IEA's emergency exercises. China's Ministry of Science and technology (MOST) has established a good channel for policy research and communications with the IEA through a cooperation agreement. However, most of the current cooperation is restricted to policy and technology research and information exchange, and China does not participate in the IEA's high level policy discussions.

China has not joined the IEA for three reasons. First, China is not an OECD member state. Second, the scale of China's current oil reserves cannot meet the minimum requirements of the IEA. Third, China has not yet established a complete and systematic energy statistical system as the IEA member countries have.

At the IEA Ministerial meeting in November 2013, China renewed and re-signed the former Joint Statement. The statement established common principles and a series of projects for the cooperation between the IEA and China. In 2013, China participated in 19 technical cooperation agreements ("Implementing Agreements") under the IEA technology cooperation "Executive Agreement", more than many IEA member countries. China also regularly participates in IEA's senior technology committee (CERT). Bilateral cooperation between China and the IEA will continue.

The IEA conducts regular in depth reviews (IDR) of the energy policies of each of its member countries every four or five years. Some international experts believe that inviting the IEA to conduct an IDR of China's energy policy will be an important option to expand cooperation with the IEA in the future, which will also enable Chinese experts to gain opportunities to participate in other countries' policy assessments. That could be a useful option. This study suggests that the IEA's experience of policy evaluation is worth learning. Another option would be for China to establish its own energy policy assessment team for further improvement based on China's own situation. China could invite IEA experts to contribute guidance, and complete its own policy assessment independently. China could still ask to send a team of experts to participate in the IEA's policy assessments in order to learn from their experience.

Joining the proposed "Association" would enable China to have the opportunity for discussions with other associates and IEA members twice a year round the table, and to participate in the IEA's senior committees. The main benefits lie in the discussion

on China's energy policies, mutual understanding with the other participants, and an inside track for China in working with the Secretariat on current energy issues.

However, as part of the association treaty package the IEA will be looking for progress in such areas as data disclosure and cooperation in emergency response mechanism. To some extent the level and timing will be open for negotiation. Obviously China cannot be expected to commit itself to comply with the IEA's requirement on emergency reserve and release, until and unless China fully participates in the decision making process. However, it is still possible and feasible for China to conduct joint action plans with the IEA, such as coordinating emergency planning. Meanwhile, the study suggests that the emergency response mechanism among the IEA and the major countries should not be limited to joint actions of releasing contingency reserves. It should contain more flexible forms of cooperation, including increasing of consensus on policies for the use of stocks, demand-side management mechanisms etc. As to the energy data, the timing for China to disclose the oil stock data will also be negotiated. It is worth noting that the weakness and imperfection of domestic energy information, statistics system and data quality makes it difficult, to a certain extent, for China to participate in any international cooperation that aims to enhance the transparency and efficiency of energy markets. The IEA can help China improve its energy statistics system to overcome this problem.

China's aim in energy governance is, and should be, to achieve a position of full equality, such as China has at the G20. The Association proposal offers an opportunity to some degree – since all Association and IEA members are equal around the table of the Association Council. Nevertheless, the association countries are still excluded from the IEA membership. Could the IEA ever reform in such a way that it could fully represent the interests of China and other major developing nations as well as its existing developed members? That is a tough question. If the threshold of IEA membership can be lowered, the possibility of further cooperation between China and the IEA will increase.

The IEA's proposal of "Association Partnership" is a highly significant step. Besides, this study suggests the following steps that could be added to the reform of IEA:

- Establishing an "IEA+China" collaborating research centre. This centre could be based in China, e.g. in Beijing. The early stage of such an institute could be an international energy centre jointly sponsored by the IEA and an agency from China, to serve as a branch office or research institute of the IEA or a subordinate of local organizations, with the purpose to promote

cooperation among the IEA and China. Following this kind of model, the IEA could build stronger bilateral collaboration with the other five countries proposed in the "Association Partnership". Such an institute should have the following functions:

- Conducting the research on the IEA reform.
 - Organizing annual cooperation affairs, such as publishing annual reports.
 - Conducting joint assessments of certain significant decisions, such as whether or not to conduct a joint intervention on the oil market, whether or not to push renewable energy worldwide.
- Strengthening cooperation with OPEC by establishing a joint committee to review the market outlook. The IEA's informal relationship with OPEC has improved greatly in recent years. Therefore, it would now be appropriate to form a joint OPEC-IEA Committee to share outlooks on energy markets. A strengthened International Energy Forum (IEF) might play a role in making this possible;
 - Improving the support for energy development in developing countries, especially for low-carbon development. Consider establishing a separate department aiming at improving access to energy and eliminating energy poverty. This can enable IEA to give greater support to the UNFCCC process, especially to its technology transfer mechanism;
 - Giving more attention to Asia-Pacific market analysis;
 - Finally, and very importantly, considering changing the treaty restrictions on non-OECD countries or opening up discussions on how effective membership would be achieved without treaty change (this would not be expected to lead to full membership for China or other developing nations in the near future, but it would open the door for constructive discussions and a period of confidence building).

2.2 THE G20

The Group of Twenty (G20) includes both developing and developed countries on an equal basis and could have an important leadership role in energy governance. However, the G20 mainly focuses on economic and financial issues and lacks support mechanism aimed at energy governance.

From 2005 to 2009 the Group of Eight (G8) met with the “G8 + 5” (Brazil, China, India, Mexico and South Africa). This group worked on a number of energy and climate change issues and was closely supported by the IEA. The 2005 G8+5 Summit also launched a dialogue on “clean energy, climate change, and sustainable development” in which a wider range of major producer and consumer countries took part (but not the main OPEC countries). This structure has, of course, now been succeeded by the Group of Twenty (G20), which better reflects the new situation of the global economy. The G20, like the G8 has no permanent secretariat, although both China and Brazil have proposed that it should have one, but the troika mechanism of G20 guarantees the continuity of the Presidency in the past, present and future.

The main mission of the G20 so far has been in the areas of financial regulation and economic recovery. The G20 Leaders have so far shown little interest in energy issues. However, the Finance Ministers and Heads of Central Bank Governors of the G20 have always taken an interest in the function of energy markets. At their meeting in Moscow in July 2013 they called for improvements to the Joint Organisations Data Initiative (JODI) database and gave their support to the joint work of the IEA, IEF, and OPEC on oil, gas, and coal markets. They also supported the International Organization of Securities Commissions' (IOSCO) collaboration with the above three secretariats on the regulation of oil derivative markets. In 2013 the G20 Energy Regulators Roundtable, hosted by Russia as a part of its G20 Chairmanship, made a strong statement on the regulation and promotion of investments in energy infrastructure. In 2009 G20 leaders committed to the elimination of fossil fuel subsidies in the medium term. Energy price volatility has also been within the view of G20.

Reform discussion

The operating mechanism of the G20 itself is still under development and reform. So far the G20 summits have generally involved heads of governments, foreign ministers, and finance ministers. This study proposes that energy ministers should also meet regularly within the G20 framework in order to create a platform for energy policy discussion at global senior leadership level.

This study suggests creating a working group to promote the following issues:

- Raising options for improving interim energy market stability, including the potential regional differences;
- Upgrading JODI and the IEF / IEA / OPEC into a comprehensive mechanism which could fully reflect the global energy market information systems;

- Establishing a mechanism so that Clean Energy Ministerial and other international bodies, in particular the UNFCCC technology mechanism and the IEA, could jointly lead the extension of global technology transfer and application;
- Enabling the principles of the Energy Charter Treaty to play a greater role in international energy investment;
- Conducting analysis on financial influences on the energy market and strengthening the monitoring of it.

More generally, the G20 can also adopt a leadership role to promote more inclusive international energy governance institutions.

China's participation

Former Premier, Wen Jiabao, proposed a multilateral co-ordination on the global energy market in the framework of the G20. The current organisation of the G20 is not suitable for daily energy cooperation. However, it has the capability to provide global leadership, and promote new international initiatives and the reforms of the IEA at the highest level. This would depend on whether the Member States could reach a consensus on relevant issues. A strengthened Energy Working Group of the G20 could facilitate this process.

Meanwhile, there will be more opportunities for China to contribute more to the energy related work of the G20 and gradually play a leadership role, including the continuation work of the finance ministers on energy markets, and energy-related preparations for the G20 meeting in November 2014 in Australia.

2.3 THE INTERNATIONAL ENERGY FORUM (IEF)

The International Energy Forum (IEF) is the largest organization for energy cooperation which gathers most energy ministers from around the world. Unlike the IEA or OPEC, for instance, its membership is comprehensive, including producer, consumer, and transit countries, whether developed or developing. China is one of the 89 member countries and is also one of the 31 permanent members of the Executive Board. In recent years, the IEF has announced a Charter and established a small secretariat based in Riyadh. The current chairman is Mexican.

The IEF aims to establish a neutral platform as a facilitator of informal, open, informed energy dialogue to “foster greater mutual understanding and awareness of common energy interests in order to secure global energy security”. The IEF holds a

meeting at ministerial level every other year. The last meeting was held in 2012 by Kuwait (co-hosts Algeria and the Netherlands) and the next meeting will be hosted by Russia (co-hosts Iraq and the UK) in 2014. There is also an associated Business Forum.

Generally speaking, the IEF is a body for exchanging views and creating networks at high level rather than making policy. However, in recent years the Secretariat has organized events and produced reports on a variety of subjects, including cooperation between National Oil Companies (NOCs) and International Oil Companies (IOCs), energy poverty, Carbon Capture and Storage (CCS), and energy efficiency.

The IEF also plays an important role as a facilitator/coordinator of the Joint Organizations Data Initiative (JODI) and other joint activities among the three Secretariats of the IEA, OPEC and IEF.

China's participation

Generally, senior officials of the Chinese government participate in the meetings of the IEF. Being a member of IEF and its Executive Board, China can offer to host or co-host one of the ministerial meetings. Also, China could send experts to work in the Secretariat and assist with the events and analysis. Because of its unique neutral position, the IEF merits more attention and this Project hopes to have further discussions with the IEF during the second phase of our work.

2.4 JOINT ACTIVITIES OF THE IEA, OPEC AND IEA SECRETARIATS (JODI AND THE POST-JEDDAH PROGRAM)

The joint activities of the three secretariats of the IEF, IEA, and OPEC Secretariats can be regarded as a pragmatic way to fill the gap left by the absence of any global body for the coordination of energy policy. They represent the best efforts of the international community to address the key challenges of energy security and price volatility. Useful work has been, and is being, done but there is no clear line of responsibility for the high level leadership of this work, since each Secretariat represents its own governing body respectively.

The Joint Oil Data Initiative (JODI)

JODI is an achievement of collaboration of the Secretariats of the IEA, IEF, OPEC, and other institutions concerned with energy statistics (including APEC, Eurostat, OLADE and UNSD).

JODI publishes a JODI-Oil World Database which intends to improve the transparency and stability of international oil markets. JODI is planning to extend this database to include natural gas and eventually to become a comprehensive international energy database. JODI has made a useful contribution to international oil data, but there is still progress to be made in terms of timeliness, completeness, and reliability.

The Jeddah Oil Summit and the Other Joint Programmes of the IEA, IEF, and OPEC Secretariats

In 2008, as oil prices peaked at over \$140 per barrel, an emergency oil summit of major producers and consumers, as well as oil companies, was called at Jeddah. This summit, and a subsequent event in London, re-emphasized the importance of JODI, and initiated a joint programme of the IEA, OPEC, and the IEF to share their analyses of:

- The outlook and trends of the oil market and,
- The impact of financial markets and volatility of oil prices.

Since then the three secretariats have held a series of workshops to compare their oil market outlooks and clarified the differences of their views. A Third Symposium on Energy Outlooks was held in 2013. Also, the three secretariats have been collaborating on aspects of international organizations' regulation of derivatives markets.

Both the IEF and the G20 Finance Ministers have taken a degree of ownership and given their support and guidance.

China has participated in and supported the work of JODI, through the NEA, the ERI, and the JODI Oil Conference hosted in Beijing in 2011. As a member of the IEF and the G20, and a major participator in energy markets, China could increase its participation in all this work by providing experts to contribute to the analysis. However, since much of this work is related to market transparency, a more open policy with regard to China's own energy data would be consistent with a more leading role for China.

2.5 ORGANIZATION OF PETROLEUM EXPORTING COUNTRIES (OPEC)

OPEC is the main representative body of energy producing countries. However, to some extent, changes in the oil market are also affecting the position of international organizations and OPEC's influence may be declining compared to that of some non-OPEC producers such as Russia, the US and Canada. OPEC currently has 11

member countries. Development of unconventional oil and gas is having a big impact on the pattern of global energy, and rapidly increasing supply from outside OPEC areas. OPEC continues to be an important player in the global market in the short-term, but has been unable to dominate the global market. The oil and gas production of its member states represent about 40% and 14% of the world's oil and natural gas production respectively. However, OPEC's oil exports still account for some 60 % of the world oil trade, and OPEC still has a significant impact on the international oil market through its decisions on oil production.

OPEC used to be the focus of global energy security as it decided the global supply of oil. During 1960s-1970s the center of the world oil production was the Caspian Sea and the middle-east, and China was still an exporter of oil. But with the changes of global energy structure, the quotas and price policies of the OPEC countries alone have not always been sufficient to contain the volatility of oil markets, which requires more powerful international cooperation and governance institutions to support investment and the depth and transparency of international markets. OPEC and the IEA have cooperated to some degree, and there are a number of bilateral cooperation initiatives between the IEA and OPEC countries. For example, the IEA has signed agreements on energy efficiency with the Saudi Arabia, Libya and Kuwait, and agreements on clean energy techniques with Saudi Arabia and the United Arab Emirates, and has other cooperation with Nigeria and Venezuela. Questions remain on the appropriate form of cooperation between IEA and OPEC, including the question of whether this should be bilateral or multilateral.

OPEC and the IEF have closer cooperation. The IEF was a product of the "Producer-Consumer dialogue" dating from 2000. In 2002 the member countries of IEA and OPEC and other relevant countries decided to establish a permanent secretariat supported by Saudi Arabia. The Secretariat is responsible for convening the biennial ministerial meeting, and cooperates with the IEA, OPEC, APEC, and other statistical bodies on the JODI data initiative. In 2008, due to the surge in oil prices, it was recognized that IEF needed to be strengthened in order to enhance the understanding of the energy market. So in 2011 the IEF Charter was created, together with an enhanced programme of joint work with the IEA and OPEC experts. There are currently 89 IEF member countries who have signed the IEF Charter. China, the United States, Russia, and Saudi Arabia are the largest national contributors. The IEF holds seminars on market forecasts, oil regulation and other issues. G20 convened a workshop on coal and natural gas markets in 2012, with participation of the IEA, IEF, and OPEC. The three key areas of the trilateral work plan of the IEA, IEF, and OPEC are the energy outlook, oil and financial markets, natural gas and coal.

The international community has widely called for closer cooperation between OPEC and energy consumer organizations. However, it is still possible to create a new and more effective framework based on IEA, IEF, and OPEC cooperation platforms. But there is an inevitable conflict of interest between the IEA and OPEC that needs to be taken into account. The dominance of developed countries on global governance is also a barrier to future cooperation.

China maintains good relations with a majority of OPEC countries. However, as its name implies, only oil exporting countries can be members of OPEC.

2.6 ENERGY CHARTER

The roots of the Energy Charter Process, which encompasses the Energy Charter Treaty, the European Energy Charter, as well as its protocols and amendments, can be traced back to the 1990s, following the break-up of the Soviet Union to promote international energy investments of Western countries in Eastern Europe.

The Energy Charter Treaty (ECT) of 1994, which is based on the principles of the European Energy Charter of 1991, aims to enhance confidence in reliable frameworks for energy investment, transport, trade and the reduction of political and regulatory risks. The Charter has contributed positively to a secure foundation for the international energy sector investments in the areas that it covers. The provisions of the ECT has been used for the settlement of investor-state disputes in more than 45 cases, and has a high degree of implementation amongst member states of northern Eurasia and the Caspian region, where the original framework of the Charter was adopted and which has been the traditional focus for the ECT.

The advantages of the Charter are that it is the only multilateral treaty with legally binding provisions for the promotion and protection of investments into the energy sector, which gives the Charter an important status in global governance. Also the Charter's membership does not distinguish between energy producing, consuming or transit countries, or between developed and developing economies.

The 51 contracting parties of the ECT include nearly all European states, including the 28 EU member states, and many countries in Central Asia, the former Soviet Union and the Black and Caspian Seas region. Ratification of the ECT is pending in 5 countries, including Russia, Australia, Belarus, Iceland and Norway. The Charter constituency also includes China, the United States and 19 other observer countries. The cooperation between the Charter and Asian countries has been increasing. Pakistan, China, South Korea, Iran and ASEAN have joined in recent years as

observers.

For a period, Russia has informally complied with the Charter. Though Russia terminated provisional application of the ECT in October 2009, it is still a signatory of the ECT. There are still Russian nationals within the Secretariat's staff. Russian delegates have attended the meetings of most of the standing groups including the current negotiations on the updated Energy Charter. All foreign energy investments made before the withdrawal are still covered by the ECT.

The ECT is open to all countries for accession. Currently the Charter is also gradually opening up to non-traditional areas and pursuing further modernization in accordance with the requirements of the new international environment. In 2009, the members of the Energy Charter Treaty launched a policy to modernize the organization in view of new energy challenges and in order to increase its attractiveness for new countries to join. Under the policy of "Consolidation, Expansion and Outreach" the Secretariat received a mandate to facilitate ratification of the Treaty among all signatories, further accessions, and the promotion of the Energy Charter's principles throughout the world. China has been a priority target of this policy. In order to engage countries all over the globe in a dialogue on the Charter's principles and to take into account their specific concerns, the signatories in early 2014 launched negotiations on an International or World Energy Charter, on the basis of the European Energy Charter of 1991. In the future, signature of this Charter will offer observer status to the Energy Charter Conference.

China's participation

The Energy Charter has a special interest for China. The Charter expects China to become a member and encourages China to participate in its process of reform. The Charter believes that cooperation with China will help China achieve more of its energy own goals.

China has benefited from the Energy Charter as several important energy trade partners of China, such as Turkmenistan and Mongolia, as well as several other transit countries in Central Asia, are member states or are in the process of becoming members of the Charter. Russia also has close ties with the Charter. Moreover, the Charter is trying to promote the "Asian super-grid" plan, aimed at transporting electricity from the Gobi Desert to Eastern China, which also relates to China's interest. Meanwhile, the Energy Charter can provide a platform for discussion on Central Asian energy transport. Even if China will not be a member of the Energy Charter, it could still participate deeply in its daily work.

Chinese involvement in the Energy Charter Process is a priority for its members and is met by active participation of the Chinese government. China received observer status in the organization back in 2001. In the past few years, the National Energy Administration had sent four officials to work at the Secretariat as secondees as part of the Secondment Programme, which aims to facilitate the improvement of relationship between the two sides and the mutual exchanges of ideas for further cooperation. . The current Secretary General of the Energy Charter recognizes the importance of engaging China and visited Beijing twice in the past two years to meet with government officials and other stakeholders. China takes an active part in the Task Force for Regional Energy Cooperation in Central Asia, which aims to promote market principles and energy co-operation in the region.

While joining the Energy Charter can be a consideration in the long term, China will need to give careful, in-depth study to the relevant legal obligations. Membership in the Treaty would offer Chinese companies immediate protection for their investments in the member states of the Treaty. The transit provisions would have value for China of the protection of the flows of gas, oil and power from neighboring countries. However China will need to give in-depth study to the relevant legal obligations. In the meanwhile, China should become more actively involved in the current process of the modernization of the Charter.

2.7 WORLD TRADE ORGANIZATION (WTO)

The World Trade Organization (WTO) currently has 159 member states and is the legal and organizational basis for the global multilateral trading system, sometimes also known as the "Economic UN". Currently the WTO's governance role, through its relevant agreements, extends to major international energy markets for trade in energy products, trade in energy services, energy, property rights and other aspects of technical support mechanisms. In recent years, the WTO has been engaged in anti-dumping and countervailing duty disputes relating to energy equipment.

Although the WTO is not an energy agency, it can provide a specific policy coordination mechanism for energy trade and an energy trade dispute settlement mechanism. But the WTO itself is also facing reform challenges. Key areas for reform include the inclusion of the special attributes of energy products and enhanced participation of developing countries in the reform process.

2.8 UN AGENCIES (INCLUDING UNFCCC)

A number of United Nations agencies concerned with energy play an important role in the energy governance. These include the United Nations Development Program (UNDP), the Food and Agriculture Organization (FAO), the Industrial Development Organization (UNIDO) and the Environmental Project (UNEP). The United Nations has also established an Energy Commission.

UNIDO has made an important contribution working with China on technology transfer. The Secretary General of the United Nations' initiative Sustainable Energy for All (SE 4All) makes a key contribution to the fight against energy poverty. A UN High- Level Panel of eminent persons has recommended that universal access to modern energy services be included in the Post 2015 Development Agenda. And the US has launched a Power Africa initiative aimed at doubling electricity access in Africa in five years.

The United Nations Framework Convention on Climate Change (UNFCCC) is probably the most influential energy-related UN body. A number of institutions have been set up under the UNFCCC framework to help developing countries implement their low-carbon energy growth strategies. These include the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN) and other technical mechanisms, as well as the Green Climate Fund. The CTCN is hosted by the UNEP headquarters in Denmark. The chairman of the Consultative Committee is American while the co-chairman comes from Uganda. Developing countries have been encouraged to respond to climate change through the development of national emission reduction plans (NAMA) and technology needs assessments (TNA).

The new institutional framework under the UNFCCC technology mechanism is just beginning to have an effect on China, and China is involved in helping developing countries to adopt low-carbon growth strategies. China is already a member of the Technology Executive Committee, one of three members from the Asia Pacific region.

2.9 CLEAN ENERGY MINISTERIAL (CEM)

The Clean Energy Ministerial (CEM) is an international organization for leadership in clean energy technologies, but it is fairly limited in its current policy levers.

CEM currently has 23 member countries and regions, including OECD countries, the five BRICS countries and the UAE. These countries account for about 80 percent of global greenhouse gas emissions and 90% of clean energy investments. The CEM is a global high level forum for promoting clean energy policies and programmes for

energy efficiency and energy access. There are three main working mechanisms: the Annual Meeting; cooperation between industry and government; and 13 clean energy initiatives. Generally speaking member states meet once a year. The most recent meeting was held in April 2013 in New Delhi, India. CEM was established by Steven Chu, as US Energy Secretary, in December 2009. The US leads 8 of its 13 initiatives and occupies a dominant position in the organization.

As of July 2013, China has participated in four of the thirteen CEM initiatives, and co-sponsors the electric vehicle cooperation initiatives with the United States. The other three initiatives in which China participates are the Carbon Capture and Sequestration Initiative (CCUS), the International Smart Grid Action Network initiative (ISGAN), and the Global Sustainable Cities Network initiative (GSCN). For the past four meetings the minister or a viceminister of China's Science and Technology Ministry has led China's delegation.

2.10 BRICS

The BRICS countries have identified energy as an area for cooperation, but so far have not agreed any energy policies or programmes except for their support of the UNFCCC process and the Doha agreement on climate change.

BRICS is an important organization for developing countries. So far it lacks an energy governance framework. Therefore it is expected in the near future that it will be difficult to achieve effective energy governance achievements. BRICS is a relatively loose informal organization, and all its activities are open to the public. BRICS cooperation mechanisms are currently limited to top level meetings. Among the BRICS countries Russia and Brazil are energy producers, while India and China are consuming countries. The BRICS have discussed the possibility of establishing a network for multilateral energy cooperation.

2.11 ASIA-PACIFIC ECONOMIC COOPERATION (APEC)

The Asia-Pacific organization (APEC) has had an energy dimension for many years. The APEC Energy Working Group has a base in the APEC Energy Research Center in Japan which publishes the Energy Demand and Supply Outlook report annually. Work is carried out on clean fossil energy, energy efficiency and energy conservation, energy data and analysis, new energy and renewable energy, and several other sub-sectors. China has a limited participation and only provides annual data. The six presidents of APEC all come from Japan. However, the influence of APEC's work is still fairly limited.

2.12 SHANGHAI COOPERATION ORGANIZATION (SCO)

The Shanghai Cooperation Organization (SCO) is considered to be one of the organizations with the greatest potential for energy cooperation in Asia. The establishment of the SCO as a permanent international organization was announced in Shanghai on June 15, 2001. The SCO now includes China, Russia and other Central Asian countries. Individual meetings have included a wider range of observer states and dialogue partners. SCO's basic function is national security and counter-terrorism, but it also has the potential to contribute to energy security in Central and East Asia.

SCO is the most representative governance organization in East Asia. This study suggests that regional organizations should play a greater role in global energy governance, and the SCO has significant potential for solving energy problems in East Asia. There are many challenges of energy cooperation in East Asia. Relations are complex and there is a need to build trust in the face of historic tensions and territorial disputes. There is a need for further dialogue and cooperation between China and Japan.

The idea to establish some kind of energy organization under the SCO framework has been proposed for many years. An SCO energy club was first proposed in 2005. Before the SCO summit in September and November 2013 the Chinese leader, Xi Jinping, and the Russian Prime Minister, Dmitry Medvedev, called for the establishment of an SCO energy club. This proposal for an agency to study the regional potential of Asian countries has not yet been fully realized. This agency should be able to do theoretical research and promote the development of energy cooperation based on a variety of suggestions and recommendations that would enable the club to make its own significant contribution.

SCO is one of the few Chinese-led international governance institutions. There is a valuable opportunity for member states, including Russia and China, to further explore its potential worth.

2.13 NEW TECHNOLOGY SPECIFIC ORGANIZATIONS

In recent years a number of technology specific organizations for energy cooperation have been founded. Among the most significant are:

- The International Renewable Energy Agency (IRENA)
- The Global Carbon Capture and Storage Institute (GCCSI)
- International Partnership on Energy (IPEEC)

IRENA was established in 2009 and headquartered in Abu Dhabi. The current president is from Kenya. IRENA presently has 134 member countries, including almost all European and African countries, and major economies such as the US, Japan, Australia, and the United Kingdom. Among the BRICS, China, South Africa and India have joined IRENA. Cooperation on renewables is enormously important for climate mitigation and energy supply and IRENA is making a valuable contribution in this area.

The GCCSI, founded in 2009, is largely funded by Australia and chaired by Australians. China is one of the member states, with one representative on the Advisory Committee. GCCSI's headquarters are located in Australia, but it has bases around the world, including one in China. The GCCSI focuses on CCS research projects and the construction and investment of large projects. GCCSI has released its annual report on global CCS statistics. However, the cost of GCCSI has become controversial in Australia.

IPEEC is an independent body hosted at the IEA, "so that the IPEEC can make full use of the knowledge, experience, and capacity of the IEA". This has some similarities with the proposed structure of the IEA's Association. India currently chairs the Executive Committee. China is listed as a participant in one of its Task Forces on Industrial Efficiency. In almost all global scenarios energy efficiency is recognized as making the greatest single contribution to climate mitigation, and IPEEC has the potential to make a major contribution in this area.

2.14 A NEW ORGANIZATION OF INTERNATIONAL ENERGY GOVERNANCE?

The need for a new order of global energy governance is widely recognized. But this does not necessarily require a new body. This study suggests that, when possible, the improvement of existing institutions is a more reasonable choice. The creation of a new body would have a high cost, be time consuming, and face strong political obstacles. In the short term, the improvement of existing institutions is more realistic and efficient.

However, reform of existing institutions may also be difficult to achieve and in the longer term new institutions may be necessary. This study suggests that a new global energy governance platform could be built around the BRICS and the Group of Seven (G7) meeting on an equal basis. Based on ministerial meetings, it would work in association with current energy institutions such as the IEA, IRENA, the World Bank, and the WTO and gives them guidance. However, the difficulty of establishing new

mechanisms of this kind cannot be ignored. Possibly some combination of reform of the IEA plus the leadership role of the G20 can achieve a similar result.

The G7 plus BRIC could be regarded as representing the major developed and emerging economies. Some experts have proposed a platform of G7 + BRIC (Brazil, Russia, India, and China) +6 international organizations (IEA, OPEC, UNFCCC, WTO, IMF and WB). These organizations represent the following main areas of energy governance: strategic oil reserves and crisis management, producer alliance, climate mitigation, energy markets, prices and financial regulation, and energy poverty. The G7 represent 47% of the world economy while the BRIC represent 17%. Together, they include the major developed and emerging economies. Such an institution would address the gap between the developed and developing economies and the gaps in international market regulation.

3. Conclusions: Global energy governance reform policy recommendations

3.1 Overall direction of global energy governance reform

This is the report of the first phase of the global energy governance cooperation project of the Energy Research Institute of China's NDRC and the Grantham Institute, Imperial College London. Global energy governance reform is not able to complete the task in a single study. Rather, it should be carried out according to the dynamic adjustment of international energy markets. We recognize the need to draw extensively on international opinion and consensus, and identify the focuses of the reform in order to formulate the blueprint of the reform. That is the primary purpose of this discussion report. We will then aim to define detailed reform proposals, and propose a reform roadmap. In this preliminary study we suggest some general principles of global energy governance reform, and of China's further participation. In the coming year of our Project we will further explore the reform of global energy governance in the light of international opinion from more producing countries and emerging economies and work towards a roadmap.

Here are some proposed focuses for energy governance reform:

- A Shared concept of a global energy security;
- Strengthening international cooperation to address the challenges of climate change and urban pollution;
- More effective international cooperation in multilateral mechanisms and sharing experience of best practice of energy exploitation and energy use;
- Working, as far as possible, through existing energy governance mechanisms;
- Jointly building a new international energy order, including energy and financial order;
- Extending the current financial analysis of commodity markets into the energy sector;
- Establishing dialogues on policies that impact the stability of key energy producing regions;
- Improving energy market transparency and data quality of statistics;
- Establishing an effective strategic reserve mechanism and cooperation around it;

- Improving the fairness of energy trade and investment;
- Jointly promoting energy efficiency, innovation, and new energy advances in technology.

Recommendation 1: The international energy governance framework should better reflect the needs and voices of emerging and developing countries, and more mature relations between energy producers, such as the OPEC countries, and consumers should be established.

The international energy governance structure needs to reflect the existing global energy situation, and should allow equal participation of emerging and developing countries. We suggest the following major areas of reform for consideration:

- A greater role for the G20 in providing leadership for energy governance reform, possibly, through a strengthened G20 Working Group and regular meetings of G20 energy ministers;
- Reforms of the IEA to enable it to play a genuinely global role in international policy and analysis. The IEA's Association proposals are a first step in this direction and making a success of them should be a priority. However, for the future, the IEA should also lift its restriction of membership to OECD countries, so that it can play a genuinely global role;
- Upgrading of the cooperation between the IEF, OPEC, and the IEA, including JODI, and enhancing cooperation on market analysis between OPEC and the IEA, including the analysis of the market uncertainty, perhaps through a joint committee;
- Major international energy agencies to increase hiring employees from developing countries, including senior positions involved in decision-making;
- More major international meetings energy to be held in emerging economies and developing countries;
- Major energy governance institutions such as the IEA and G20 should consider the establishment of offices/secretaries in major developing countries especially in China;
- Considering setting up a special fund for international cooperation in energy-related training for staff capacity in developing countries. The training includes international energy cooperation, energy data and statistics, rules of interpretation of international energy laws;

- Strengthening the international rules for international energy trade and investment to implement a more equitable framework for developing countries. This could include development of the principles of the Energy Charter Treaty;
- Inviting more emerging economies to participate in major international meetings. More international workshops can also be held in emerging countries.

Recommendation 2: Update and upgrade international emergency response mechanisms.

Energy security is the core objective of energy governance. Based on the IEA's emergency response mechanism, the functions of the mechanism for oil security should be expanded, and mechanisms should be created, aimed at addressing not only supply disruptions, but also extreme energy price fluctuations. The major international bodies need to work together with wider participation from consumer countries to jointly cope with supply crises.

Recommendation 3: Strengthen energy research cooperation, especially on clean energy research at the global level.

Practical discussions at global level are needed to promote international cooperation on innovation and the development of clean energy technology, including renewables, while establishing a sound system of global protection of intellectual property rights while encouraging technology transfer. The international community should consider a major global initiative in a critical area of low carbon technology such as Photovoltaics (PV) or Carbon Capture and Storage.

Recommendation 4: International law should further improve the resolution of energy trade disputes, investment protection and other aspects.

The international economic crisis has increased the risk of trade protectionism and energy trade disputes. Currently, legally binding global energy governance mechanisms are mainly relevant provisions of WTO and the Energy Charter Treaty. These mechanisms play an important role in resolving energy trade disputes and protecting investments. However, with the globalization of the energy market it has become increasingly clear that there are blanks in international law. It is necessary for global mainstream energy governance institutions to improve the relevant legal framework and promote the participation of developing countries in the rule-making process, creating a more efficient and fair international energy governance order.

Recommendation 5: Create a global platform for more efficient dialogues.

The increase of mutual dependence in global energy market leads to the “Butterfly Effect”, such as the impact of US shale gas on global prices, and the increase in Japanese imports of liquefied natural gas (LNG) resulted from the decline of nuclear power. There is a need to establish a more effective and powerful dialogue between the major energy powers such as China and Japan, China and Russia, to solve energy problems efficiently and thoroughly.

Recommendation 6: Building on the existing UN programme, major international energy governance institutions should enhance cooperation on the elimination of energy poverty.

Energy poverty deserves more attention. Major international organization should enhance the cooperation to eliminate the energy poverty worldwide.

3.2 Policy recommendations for China to further participate in global energy governance

China has emerged as a major player in the global energy market, but in the international energy affairs China is still relatively inexperienced. China's participation in global energy governance and capacity building is still at the initial stage. China should cultivate a modern governance capacity which helps making full use of the existing international frameworks and participate in shaping and developing international rules and institutions. China should gradually become deeply involved in global energy governance and play its part in international energy leadership in certain areas. Specific recommendations are as follows.

Recommendation 1: China should strengthen the ability to participate in global energy governance.

On the 3rd Plenary Session of the 18th Central Committee, CPC released a document titled "Decision on Reform", which noted that China should “push on with modernization of the governing system and capabilities”. Modern governance capacity in the energy sector is also of paramount importance. This study suggests that China needs to modernize its energy management capabilities relating to global energy governance. This should include the following:

- **Capability to proactively shape international energy issues.** This includes working with developed and developing countries to raise key issues which represent the needs of developing countries on major international

platforms;

- **Ability to use international energy rules.** China should adapt to the existing international rules, and also make skilled, flexible use of relevant international law to resolve trade disputes in the future;
- **The design of a modern government framework for international energy cooperation.** There is a need for appropriate government architecture to facilitate international energy cooperation. The current National Energy Administration needs to expand its functions and make use of diversified means to increase China's participation in global energy governance. The relative government departments should be innovative in designing their structure, making the international cooperation departments more flexible, and simplifying the procedures for internal clearance procedures for Chinese officials' participation in international events.
- **Modern understanding of energy diplomacy.** This includes the use of both official and private networks, and a full range of public relations to promote international cooperation. There is also a need to explain China's policies better to the public and international community.
- **Modern human resources management and capability of dispatching staff to international platforms.** It is important for China to improve the deployment of human resources in various ways. For example, the oil exploration industry needs not only experts in oil fields but also those with cross-border skills and cross-cultural experiences. Qualified people for strategic research and negotiating talents are in short supply in China, too. This is not just a question of language skills, but also requires an in-depth understanding of international cultures which is necessary for taking the initiative in international discussions. There is also a need to simplify the internal approval process for dispatching staff abroad to ensure that there are Chinese staff on important international platforms. Better training on international cooperation, ideally in practical work, is also needed for future human resources needs.
- **The capability of providing service for China's participation in the global energy market activities.** International governance is a "soft power", which ultimately aims to serve a country's participation in the global energy market. International cooperation should not be limited to participation in international talks and passively responding to international expectations. It should be an effective tool to support the well functioning of the energy

market, provide service to market activities and contribute to the achievement of national development strategies.

Recommendation 2: China should pay more attention to the international energy market and enhance the interpretation of China's energy policy.

China's energy policy-makers should be fully aware of the growing international dimension of China's energy policy. Increasing imports of oil, natural gas and even coal are subject to international market shocks. Participation in global governance and understanding of international markets must be considered essential for circumventing the risks of market shocks.

On the other hand, there have been misunderstandings from the international community on China's foreign energy policies in recent years. The Chinese culture upholds the principle of "working more and talking less". As a new participant in the global market, China lacks international experience and intends to make improvements through learning from others rather quietly. However, misleading language such as "Chinese opportunism", "China threat" and "neocolonism" has entered the debate, which requires better explanation of China's international policy and communication with the media. Meanwhile, government departments, research institutes and businesses should pay more attention to internationalization. Policy reports should be released in both Chinese and English to better explain China's policies, improve the quality of statistics to better engage in international communication and promote China's image.

Recommendation 3: Strengthen the openness of China's energy resources in particular areas.

Application of international rules is bidirectional. Using international rules to protect China's foreign investment also means protecting foreign investment in China. The hope for more open international markets also means a certain degree of opening up the domestic market. Opening opportunities for international investment is beneficial for both China and the international society. China should identify the priority areas that require international cooperation, increase the degree of openness, absorb foreign advanced technology and experience, and attract foreign investment to promote the competitiveness and dynamism of the domestic energy market. This will help to achieve a win-win energy development, deepen pragmatic cooperation and improve the degree of openness of the Chinese market.

Recommendation 4: From a strategic point of view to expand and deepen the cooperation with international energy institutes.

Currently major international energy institutes all have their secretariats and offices in Europe, Saudi Arabia and Latin America. As one of the biggest stakeholders in global energy governance, China is not a member of the main energy security institutions and does not host any headquarters of international institutions. National energy authorities are recommended to support the establishment of such secretariats or offices so that China can have more opportunities to express its own point of view and provide more valuable information to the international market. It is also recommended that the energy authority issue an "International Energy Agency Cooperation Guide," to clarify national strategy for international energy and the specific functions of existing institutions. It would give guidance at all levels of government departments, social institutions and business to fully expand cooperation with the international institutions.

Recommendation 5: The creation of an international energy conference and event list.

It is recommended that national energy authorities develop "a list of international energy conferences and events". National energy departments in charge of international cooperation should further clarify the names of international energy conferences and events, the dates for each year, the departments to attend (including National Statistics Bureau, National Energy Administration, state-owned oil companies, energy research institutes, etc.), the official level of the participants, and the purpose of participation, to ensure better engagement in these activities.

Recommendation 6: China should respond positively to international expectations on China of closer engagement in global energy governance.

The international society expects China to join the oil emergency response mechanism, to improve the quality of statistics, and to join the IEA Association Initiative. China should respond positively to these expectations and accept the international responsibilities according to its own energy strategy and conditions.

Recommendation 7: Establish an internal consulting mechanism for the government departments on foreign affairs and international energy cooperation.

Internal consultation on major international issues is needed for government departments on international energy cooperation and foreign affairs. This would help China to articulate the issues most relevant to China's interests more effectively and

gain more domestic and international attention for them.

Recommendation 8: China should actively use the unofficial forces and international forces, and establish discussion platforms to enhance China's research and capacity building to participate in global energy governance.

Global energy governance requires efforts from all sides. Western countries have rich experiences in the establishment and governance of global rules for handling international affairs. The Chinese government should learn from the experiences of Western countries, international organizations and the think tanks. The scope of global energy governance research is multidisciplinary and covers political, economic, military, diplomatic, legal and other aspects. It is recommended that, based on the research institutes in China, the Chinese government could build a discussion platform, including online communications, and hold regular seminars to collect advice through various channels, to enhance knowledge exchanges and communication.

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Center for Strategic and International Studies (CSIS)

David Pumphrey, Senior Fellow at CSIS, Chaired the discussion

Guy Caruso, Senior Adviser on Energy and National Security

Jennifer R. Walto, Manager International Government Affairs, Chevron

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ERI & the Grantham Institute project team

About Energy Research Institute

The Energy Research Institute (ERI) of the National Development and Reform Commission (NDRC), which was established in 1980, is a national research organization conducting comprehensive studies on China's energy issues. ERI's research mainly focuses on the fields of energy economics, energy supply and demand forecasts, energy security, energy efficiency, energy environment & climate change and renewable energy. In recent years, ERI has accomplished hundreds of projects related to energy strategy, medium and long term energy planning, energy policies, energy efficiency, climate change and renewable energy development as well as energy consultation projects. www.eri.org.cn

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