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China's Energy Security in the Twenty-First Century

The Role of Global Governance and Climate Change

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HKU PRESS
香港大學出版社

Hong Kong University Press
The University of Hong Kong
Pok Fu Lam Road
Hong Kong
https://hkupress.hku.hk

ISBN 978-988-8805-63-1 (*Hardback*)

The author is grateful to the following publishers for their permission to adapt his previously published work in this book:

Chapter 1 was adapted from: Kaho Yu, 'What about Climate? China's Energy Transition and the War in Ukraine', in *The Future of Xi's China: Scenarios and Implications for Europe*, edited by Alessia Amighini, ISPI, 2022.

Chapter 2 was adapted from: Kaho Yu, 'Energy Cooperation in the Belt and Road Initiative: EU Experience of the Trans-European Networks for Energy', *Asia Europe Journal* 16 (3) (2018): 251–265, adapted by permission from RightsLink Printable License: Springer Nature; and Kaho Yu, 'Energy Cooperation under the Belt and Road Initiative: Implications for Global Energy Governance', *Journal of World Investment & Trade* 20 (2–3) (2019): 243–258, available online at https://brill.com/view/journals/jwit/20/2-3/article-p243_3.xml?rskey=DDjHHE&result=1.

Chapter 4 was adapted from: Kaho Yu and Yunheng Zhou, 'China's Energy Security and Sino-African Energy Cooperation', in *China's Energy Security: A Multidimensional Perspective*, edited by Giulia Romano and Jean-Francois Meglio, © 2016 and Imprint. Reproduced by permission of Taylor & Francis Group.

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library.

10 9 8 7 6 5 4 3 2 1

Printed and bound by J&S Printing Co., Ltd. in Hong Kong, China

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Foreword

China's growing role in global energy and climate governance ranks among the most pressing subjects in international relations of the twenty-first century. How will China's global energy hunt and climate pledges impact the world? What are the implications for global energy markets? What are the geopolitical consequences?

Dr Kaho Yu's book is an excellent contribution to understanding China's energy strategy, particularly how it uses global governance to carry out its energy and climate strategies. Kaho takes a multi-disciplinary approach to unpack the complicated interlinkage of Chinese energy security, climate politics, and foreign policy. It provides an in-depth empirical analysis of Chinese energy and climate policies over the last two decades and the mechanisms of China's international energy cooperation.

Universities are beginning to see the need to offer more energy and climate programmes. Energy companies are evaluating the material impacts driven by geopolitics and climate change. International organisations are also trying to find a way to accommodate China's demand. The arrival of Kaho's book is perfectly timed.

As Kaho's mentor, I am pleased to see that Hong Kong University Press values his research on global energy and climate policies over the last decade and has decided to publish it as a book. I have no doubt that this book will help scholars, students, policymakers, and businesses better understand China's energy security, climate politics, and international relations.

This foreword is a special one as I did not have the chance to participate on the examiner panel during the defence of Kaho's PhD thesis.

Professor Keunwook Paik
Author of *Sino-Russian Oil and Gas Cooperation: The Reality and Implications*

Foreword

Energy and climate are interlinked at the forefront of international relations nowadays. Energy itself is a multi-disciplinary subject, covering policy, economic, social, scientific, and climate aspects. Addressing energy and climate issues also requires national, regional, and global perspectives. Therefore, it would be incomprehensive to discuss climate action in isolation from energy structures, analyse energy issues in isolation from climate change, or promote energy and climate cooperation in isolation from diplomatic relations. How to advance sustainable development with an organic integration of the three issues is a pressing topic, and should be confronted seriously by the international community today.

What is valuable about this book is that it is not simply an enumeration of the three issues of energy, climate, and international relations, but also a systematic account of the development of China's international energy strategy. The author provides a theoretical foundation and a global perspective for analysing these three interlinked fields and their interactions. The book offers a detailed overview of the current international energy and climate situation, and of China's role in global energy and climate governance. It also provides an in-depth discussion of energy cooperation along the Belt and Road. Furthermore, it demonstrates the field research and expertise of the author across multiple disciplines, countries, industries, and perspectives.

The author of this book, Dr Yu Kaho, is an extremely talented young scholar whom I have worked with in the past. I was introduced to him by a close friend, Professor Keunwook Paik, from Chatham House, at a conference at the China Institute of International Studies. In addition to his own research and teaching, Kaho served as my assistant, helping me with research and interpretation. We have always maintained a good personal relationship, often discussing topics such as the Belt and Road, international energy cooperation, China-US-Russia relations and global governance, and have attended many domestic and international energy conferences together. I am impressed that many of his judgements on situations in the fields of energy, climate, and international relations have since proved to be accurate.

Kaho has always been passionate about academic research, especially on topics related to energy, climate, and international relations. I am delighted that he is working with Hong Kong University Press to compile his research and studies over the past decade into a book. I believe this book is of tremendous value and will help improve the understanding of international energy and climate for both domestic and international readers.

Professor Xia Yishan (夏义善教授)
China Institute of International Studies

Foreword

China is a superpower. It is the second largest economy in the world, with the second most powerful armed forces. It is also a major global investor and donor, as well as a diplomatic juggernaut in different regions. The Chinese government has even started to develop its own institutions and initiatives that are shaking international relations. Whether it is the Belt and Road Initiative, the Asian Infrastructure Investment Bank, or the Forum on China-Africa Cooperation, any initiative that China unveils has global repercussions. We ignore this reality at our peril.

This holds true for China's approach to energy security. Long are the days when China emphasised self-reliance. Following years of high economic growth, China became a net energy importer in the 1990s. This certainly had huge repercussions for China's energy policy. But the Chinese economy's thirst for foreign oil and gas has also affected world energy markets. Whether you are filling up your car's tank in Europe or Sub-Saharan Africa, heating your home in North Africa or Latin America, or working in a factory in East Asia or North America, China's energy policy directly affects you. And this will continue for decades to come.

Yet, how much do we know about China's approach to energy security and how it impacts other parts of the world? The truth is that many analysts and scholars approach Beijing's energy security putting ideology first. 'Neo-colonialism', 'energy imperialism', or 'hunt for energy resources' are some of the terms used by those who believe that China can do no right. 'Win-win' is the term more commonly used by those who think that Beijing can do no wrong. Sobering analysis is replaced by political (energy) football.

In this context, Dr Kaho Yu's is required reading. He offers a nuanced, methodical, and very readable analysis of China's energy security. Having had the opportunity and honour to supervise Kaho's thesis, I can attest that this analysis is the result of years of hard work, perseverance in getting access to interviewees with key information, a careful investigation of relevant archives, and an original interpretation of publicly available resources. This combination makes Kaho's book a unique contribution to our understanding

of China's approach to energy security and foreign policy. That is to say, this book helps understand the global politics of the twenty-first century.

Professor Ramon Pacheco Pardo
Professor of International Relations, King's College London

Introduction[1]

Energy and climate are interlinked in global affairs. In order to navigate supply disruptions driven by geopolitics and climate change, China has been highlighting international cooperation, in particular global governance, as a key means to enhance its energy security. Over the last two decades, the Chinese leadership has also incorporated global energy and climate governance in China's grand strategies, from the going-out strategy to the Belt and Road Initiative. The way China promotes international cooperation for energy security has impacted global, regional, and national energy markets, with significant geopolitical consequences.

While energy security is a top national interest of China, its scope has evolved over the last few decades. After China became a net oil importer in 1993, it started to diversify its supply by expanding its overseas upstream portfolio via the 'going-out' strategy. In the following two decades, China expanded the scope of energy security by incorporating new elements, particularly the global supply chain, climate change, and global governance. Energy continued to be a core aspect when China rolled out the Belt and Road Initiative (BRI) in 2015, with a more multilateral plan to enhance infrastructure connectivity, commodity trade, supply chain integration, low-carbon development, and international finance. The Paris Agreement, signed in 2016, has driven China towards further contributing to global climate governance. In 2020, when the Chinese leadership called for enhancing energy security due to global supply chain disruptions driven by the China-US trade war, the COVID-19 pandemic, and accelerated energy transition, global energy governance was seen as part of the solution. The rationale underlying the strategy of Chinese energy security has shifted from merely chasing quantitative objectives (e.g., increasing the amount of oil imported) to including some qualitative goals (e.g., improving supply chain diversification, sustainability and governance) that rely on multilateralism. The realisation of the BRI is set

1. The views, thoughts, and opinions expressed in this book belong solely to the author, and not necessarily to the author's employer, affiliated organisations, or other group of individuals.

to result in a more multilateral energy strategy for China, one that has the potential to modify and even upend the current global and regional order.

At the global level, China's energy demand has influenced the development of the world's energy markets, climate campaigns, and global governance.[2] At the regional level, Chinese investments have changed the existing structures of energy supply by building new transport infrastructure that connects energy resource bases to the Chinese market.[3] At the national level, Chinese investments have become an important source of capital and technology for developing domestic energy infrastructure and energy transition in China's partner countries.[4]

While there is criticism that China is adopting an aggressive energy diplomacy stance to increase its power in the international system,[5] the Chinese government has argued that it actively engages in global energy governance to contribute to the stability of the global energy market. China's grand strategy, the Belt and Road Initiative,[6] and a number of Chinese policy agendas, such as the Energy White Paper in 2007, 2012, and 2020 and the Action Plan for Carbon Dioxide Peaking Before 2030,[7] have emphasised multilateral approaches and global energy governance as a means of enhancing international energy cooperation. To date, China has actively promoted energy and climate cooperation in several international organisations and participated in various international energy organisations. Beyond these organisations, China has also promoted global energy governance via regional initiations, such as Shanghai Cooperation Organisation Energy Club,[8] multilateral platforms with Africa,[9] and joint initiation for clean technology cooperation.[10] This evolution

2. Atanu Ghoshray and Javier Ordóñez, 'The Chinese Energy-Intensive Growth Model and Its Impact on Commodity Markets', in *Energy Security and Sustainable Economic Growth in China*, ed. Shujie Yao and Maria Jesus Herrerias Herrera's (London: Palgrave Macmillan, 2014), 31–51.
3. For example, China's oil and gas pipeline with Central Asian countries and Russia. See Susann Handke, *Securing and Fuelling China's Ascent to Power: The Geopolitics of the Chinese-Kazakh Oil Pipeline* (Hague: Clingendael International Energy Programme, 2006), http://www.clingendaelenergy.com/inc/upload/files/Chinese-Kazakh_Oil_Pipeline.pdf; Keunwook Paik, 'Sino-Russian Gas and Oil Cooperation: Entering into a New Era of Strategic Partnership?', Oxford Institute for Energy Studies, 2015, https://www.oxfordenergy.org/wpcms/wp-content/uploads/2015/04/WPM-59.pdf.
4. Ivana Casaburi, 'Chinese Investment in Europe', ESADE China Europe Club, 2016, http://itemsweb.esade.edu/research/esadegeo/ENGChineseInvestmentInEurope201516.pdf; Jeremy Clegg and Hinrich Voss, 'Chinese Overseas Direct Investment in the European Union', in *China and the EU in Context*, ed. Kerry Brown (London: Palgrave Macmillan, 2014), 14–43.
5. James Kynge, 'Western Resistance to China Blocks $40bn of Acquisitions', *Financial Times*, 25 October 2016.
6. See Chapter 2.
7. See Chapter 1.
8. See Chapter 3.
9. See Chapter 4.
10. See Chapter 5.

in China's energy policy, from energy diplomacy to a strategy that incorporates global energy governance, has raised the question about the extent to which China would work with multilateralism.

A Debate of Chinese Energy Security

Energy has been linked with diplomacy and security throughout human history, and continues to be a core aspect in business and politics. In the early twentieth century, competition for oil in the Persian Gulf triggered the British-Russian conflict. The Italian invasion of Abyssinia in 1935[11] and the German invasion of the Soviet Union in 1941[12] were also linked to the desire for oil. Diplomatic approaches to energy are frequently adopted in modern international relations. For instance, the US has been investing in extensive diplomatic efforts to ensure global oil supplies. Washington has attempted to 'promote a stable global energy supply by engaging diplomatic partners and private producers to maintain supply, calm markets, and pursue alternative energy options'.[13] In the new millennium, tightening global oil and gas markets and new energy abundance has upended global politics, attracting academic attention towards how energy is shaping foreign affairs. [14]

Energy has also been a key agenda in global governance. The governance of energy issues beyond the national level is regarded as global energy governance, and this relies on a multilateral approach at both global and regional levels.[15] Since the late 1970s, the liberalisation of the international energy market, particularly the oil market, has marked a starting point for a paradigm of global energy governance. In simpler words, the oil shocks of the 1970s fundamentally changed the rules of the game in the international energy market. This is well demonstrated by the formation of the International Energy

11. Cristiano Andrea Ristuccia, '1935 Sanctions Against Italy: Would Coal and Crude Oil Have Made a Difference', *European Review of Economic History* 4, no. 1 (2000): 85–110.
12. Keith Crane, *Imported Oil and US National Security* (Washington: RAND Corporation, 2009).
13. US DOS, 'Energy Diplomacy in the 21st Century', 2012, http://www.state.gov/r/pa/pl/2012/200637.htm.
14. Meghan O'Sullivan, Windfall: How the new energy abundance upends global politics and strengthens America's power (New York: Simon & Schuster, 2017).
15. See Andrew Goldthau, 'Governing Global Energy: Existing Approaches and Discourses', *Current Opinion in Environmental Sustainability* 3, no. 4 (2011): 213–217; for other studies on global energy governance, see Aleh Cherp, Jessica Jewell, and Andrew Goldthau, 'Governing Global Energy: Systems, Transitions, Complexity', *Global Policy* 2, no. 1 (2011): 75–88; Gaye Christoffersen, 'The Dilemmas of China's Energy Governance: Recentralization and Regional Cooperation', *The China and Eurasia Form Quarterly* 3, no. 3 (2005): 55–80; Navroz K. Dubash and Ann Florini, 'Mapping Global Energy Governance', *Global Policy* 2, no. 1 (2011): 6–18; Ann Florini, 'The International Energy Agency in Global Energy Governance', *Global Policy* 2, no. 1 (2011): 40–50; Arunabha Ghosh, 'Seeking Coherence in Complexity? The Governance of Energy by Trade and Investment Institutions', *Global Policy* 2, no. 1 (2011): 106–119; Maria van der Hoeven, 'IEA Vision on International Energy Governance', *Energy Strategy Reviews* 1, no. 2 (2012): 73–75.

Agency (IEA). In the 1970s, oil-importing countries experienced tremendous difficulties in replacing oil supplies that were lost due to the oil embargo and the associated political turmoil in the Persian Gulf. Thus, the consumer countries of the Organization of Economic Cooperation and Development (OECD) created emergency sharing mechanisms and combined forces via the IEA. Since then, several energy-related international and regional institutions have been established, such as the Energy Charter, the IRENA, the IEF, and the energy working group under the G20. A multilateral approach is followed to deal with energy issues in the form of institutions that constitute formal rules, informal constraints, and enforcement mechanisms. Global energy governance is being established, developed, and advanced as a new and promising approach that relies on governments' commitment to the paradigm of global energy governance.[16]

To enhance energy security, China has adopted energy diplomacy as an important part of its 'going-out' strategy and national development strategy.[17] Zhu argues that energy diplomacy is a logical extension of China's national interests, as it builds relations with resource-rich countries, develops a favourable environment for Chinese companies in the resource field, and establishes alliances for energy cooperation.[18] For China, the primary goal of energy diplomacy is to secure national control of overseas resource supplies, particularly oil and gas, and to diversify its import sources. Moreover, since the sustainable development of the Chinese economy is closely related to the sustainable development of the world economy, the world has started to keep an eye on China's actions.

China's energy hunt was not always well accepted by the international community. It is generally understood that energy import-dependent states tend to expand their influence in the global market by increasing relative and absolute power, and China is no exception.[19] Since energy 'could be a catalyst for conflict',[20] China's energy security strategy could lead to the insecurity of other countries.[21] Some even view China's expanding international

16. Goldthau, 'Governing Global Energy: Existing Approaches and Discourses', 213–217.
17. PRC State Council, 'An Overview of "Going Out" Strategy', 2011, http://qwgzyj.gqb.gov.cn/yjytt/159/1743.shtml; Qinhua Xu, 'China's Energy Diplomacy and its Implications for Global Energy Security', FES Briefing Paper, 2007, http://library.fes.de/pdf-files/iez/global/04763.pdf.
18. Feng Zhu, 'A High Price to Pay: China's Resource Diplomacy Requires Wisdom', *New Finance*, 18 May 2005, accessed 13 September 2013, http://media.163.com/05/0518/10/1K1FC60A00141A16.html.
19. See also Chietigj Bajpaee, 'China Fuels Energy Cold War', *Asia Times*, 2 March 2005, http://www.atimes.com/atimes/China/GC02Ad07.html; Steven Mufson, 'As China, U.S. Vie for More Oil, Diplomatic Friction May Follow', *Washington Post*, 15 April 2006, http://www.washingtonpost.com/wp-dyn/content/article/2006/04/14/AR2006041401682_2.html.
20. Kent Calder, *Pacific Defense: Arms, Energy, and America's Future in Asia* (New York: William Morrow & Co., 2006).
21. Daivd Zweig and Mikkal Herberg, 'China's Energy Rise, the US, and the New Geopolitics of Energy', *Pacific Council on International Policy* (2010): 35–74; David Zweig, 'A New

cooperation as a way to step up control of the global energy supply chain for its own benefit.[22] The US, in a national report, suggested that China could somehow 'lock up' energy supplies or seek to direct markets and support resource-rich countries without regard to their political stance.[23] For example, in 2020, amid trade tensions and disruptions due to the COVID-19 pandemic, Chinese President Xi called for the need to diversify imports and strengthen the global supply chain's dependence on China. The underlying rationale was to 'develop power retaliation and deterrence capabilities against supply cut-offs by foreign parties'.[24] The China-Australia dispute over coal trade in 2020–2021 was another example of a resource commodity used as geopolitical leverage during diplomatic disputes.

However, others have also indicated that the impact of China's vast investment could be an opportunity to enhance cooperation and interdependence rather than as a threat.[25] Indeed, Chinese energy companies have explored energy reserves in regions where no Western powers can or will invest. Such an approach increases the world's available energy reserves, and hence, instead of harming global energy security, China's energy policy actually enhances it.[26] Moreover, beyond bilateral energy diplomacy, China has also proactively participated in international energy organisations and advocated global governance as a means to handle global energy issues, from market disruption to low-carbon transition.

Despite its lack of confidence in Western-led institutions and traditional preference for bilateral diplomatic approaches, China has repeatedly pledged to participate actively in global energy and climate governance in recent years. China's white paper on energy in 2007 first emphasised the country's contribution to international energy cooperation via both bilateral and multilateral approaches.[27] The energy white papers in 2012 and 2020 further addressed the need for global energy governance in stabilising the global market. The action

"Trading State" Meets the Developing World', Working Paper no. 31, Center on China's Transnational Relations of the Hong Kong University of Science and Technology; David Zweig and Bi Jianhai, 'China's Global Hunt for Energy', *Foreign Affairs* 8, no. 5 (2005): 25–38.

22. Jean Garrison, *China and the Energy Equation in Asia: The Determinants of Policy Choice* (Boulder, CO: Lynne Rienner Publishers, 2009); Dobie Langenkamp, 'Our Friend, The Dragon', *Energy Tribune*, 2010, http://www.energytribune.com/articles.cfm?aid=3758.
23. White House, 'The National Security Strategy', 2006, https://www.comw.org/qdr/fulltext/nss2006.pdf.
24. Jinping Xi, '国家中长期经济社会发展战略若干重大问题' [Major issues in the National medium- to long-term economic and social development strategy], *Qiushi*, 31 October 2020, http://www.xinhuanet.com/politics/leaders/2020-10/31/c_1126681658.htm.
25. Philip Andrews-Speed, *The Strategic Implications of China's Energy Needs* (London: Routledge, 2014).
26. US DOE, 'Energy Policy Act of 2005 Section 1837: National Security Review of International Energy Requirements', 2006, https://www.govinfo.gov/content/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf.
27. PRC NDRC, 'China's Energy Conditions and Policies', 2007, https://en.ndrc.gov.cn/policies/202105/P020210527780237298276.pdf.

plan for carbon dioxide reduction in 2021 highlighted global governance as an important way to achieve energy transition. Global energy governance is also incorporated into China's grand strategy—the Belt and Road Initiative. China's top leadership has repeatedly called for a global effort to tackle energy problems collectively and proposed the establishment of an international institute to govern the energy market.[28]

While China's rise in global governance is widely seen as part of the solution to global energy and climate challenges, there has also been a long debate whether China's strategy seeks to work within the multilateral system as a 'responsible stakeholder' or outside the system via its preferred approaches. While China has been actively expanding its footprint in international energy cooperation and international energy organisations, it remains unclear how China would fit into the existing global energy governance system.

Structure of the Subsequent Chapters

This book attempts to unpack the rationale, mechanism, and evolution underpinning China's strategy for international energy cooperation in the following chapters. Chapter 1 begins by discussing the historical background, structure, policy priority, and rationale behind China's energy security from the late 1990s to 2021.[29] It outlines and explores how Chinese energy diplomacy has evolved to adopt a more balanced approach that incorporates global governance for addressing energy and climate challenges.

Chapter 2 attempts to unpack the key aspects of energy cooperation in the BRI. It also uses the case of the Asia Infrastructure Investment Bank (AIIB) to explain how global energy governance is implemented. The chapter provides a deep dive into China's view towards international energy organisations. It also analyses whether BRI is turning China's energy cooperation in Eurasia into more of a multilateral strategy.

Chapter 3 offers a case study of China's pipeline projects in Central Asia. Specifically, it looks at the development of cross-border oil and gas pipelines and the attitude of relevant parties towards multilateral organisations, such as the Shanghai Cooperation Organization, which can facilitate energy trade via transnational pipelines. This chapter seeks to determine whether China's energy strategy in Central Asia has taken a more multilateral approach, especially in the area of infrastructure connectivity.

Chapter 4 turns to Africa and looks at Chinese oil and gas investment in the continent. It analyses the mechanisms China uses to enhance its cooperation

28. UPI, 'China Urges Global Energy Cooperation', *United Press International*, 16 January 2021, http://www.upi.com/Business_News/Energy-Resources/2012/01/16/China-urges-global-energy-cooperation/UPI-77361326740422.
29. This research does not cover the Russia-Ukraine crisis that broke out in March 2022.

with African countries, from diplomatic means to high-level events such as the Forum of Africa-China Cooperation. This chapter uncovers whether China's energy strategy in Africa is able to show a multilateral approach or merely rely on bilateral approaches.

Chapter 5 presents a third case study on the EU-China clean energy cooperation. The energy relationship between China and the EU is explored, focusing on technology transfer and joint projects/initiatives that promote low-carbon development. It explains how international commitment to climate change, such as the Paris Agreement, has driven cooperation and the key obstacles in this context.

The final chapter offers a conclusion. It summarises the findings in the above case studies and discusses the extent to which China's energy strategy has incorporated global energy governance. It analyses the key challenges as well as the geopolitical consequences of China utilising global governance to deal with energy and climate issues across the Eurasian region.

3
China–Central Asia Energy Cooperation

A Transnational Infrastructure Network of Oil and Gas Pipelines

The China-Central Asia energy cooperation dates back to the early 1990s and is the backbone of energy diplomacy in China's 'going-out' strategy and BRI. Since the abundant production of oil and gas in Central Asia is in stark contrast with their limited oil and gas consumption ability, the region has a large amount of surplus oil and gas available for export. A complementary supply-demand relationship between China and Central Asia has maintained their bilateral oil and gas trade over the last two decades. While China has attempted to secure supply to meet its growing domestic energy demand, it is also trying to strengthen regional relations for national security and geopolitical reasons. A stable and peaceful external environment, especially border issues and regional security, is necessary for its rapid economic development.[1]

China's interests in its relations with Central Asia are intimately connected to its diplomacy in these regions. Since the fall of the Soviet Union, China has shown its intent to develop greater economic and trade relations with the newly independent states, particularly Kazakhstan, through border trade and infrastructural links.[2] The key commodities in this Silk Road are no longer silk, as it was in the past, but oil and gas. This approach has ultimately enmeshed China in the wider geopolitical competition for its access to Central Asia's oil and gas and greater political and economic influence in the region. China's reorientation of its energy strategy towards Central Asia in the early 1990s was more of a strategic manoeuvre than a 'market' approach to oil and gas resources.[3] For the same reason, Central Asia remains a priority region in China's BRI. However, this does not necessarily mean that energy security is merely a part of China's political manoeuvre in the region. The energy supply from Central

1. Ross H. Munro, 'China's Relations with Its Neighbours', *International Journal* 61, no. 2 (2006): 320–328, 327.
2. Ibid.
3. Ibid.

Asia was also used to mitigate China's growing demand pressure driven by rapid economic development, high oil prices, and its increasing dependency on Middle Eastern energy sources.

Two key elements in their energy cooperation are the transnational pipeline projects and the Shanghai Cooperation Organization (SCO). They do not merely indicate the development and changes in the energy cooperation mechanism between China and Central Asia; they also reveal the rationale underpinning the region's Chinese energy security. The necessity to diversify its energy suppliers is also a determining factor for the reorientation of China's foreign energy policy towards Central Asia. Since energy interdependence continues to strengthen, diplomacy has become an important means to promote energy cooperation. To ensure a reliable supply from Central Asia, China's top leaders have been strengthening relations with leadership from these regions and promoting bilateral and multilateral regional cooperation. In bilateral cooperation, China attaches importance to developing economic, trade, and security relations with countries in Central Asia and enhancing their oil security interests through the development of bilateral relations. Additionally, multilateral cooperation aims for regional economic and security integration in the framework of the SCO.

China and Central Asia Energy Cooperation

As energy cooperation progresses with official support, China and Central Asia have by now preliminarily established a structured cooperation mechanism that involves joint energy projects in both bilateral and multilateral approaches. Since the introduction of the 'going-out' strategy in the 1990s, China has actively invested in and facilitated the development of international oil, and Central Asia is a key strategic area in this context.[4] Chinese NOCs have been performing actively in upstream mergers and acquisitions and building supply infrastructure networks. The primary task is to expand China's upstream asset portfolio in the region as a way to diversify supply.

A historical review

China has actively participated in exploring and developing upstream resources in Central Asia, especially in Kazakhstan, Uzbekistan, and Turkmenistan, with NOCs such as CNPC as the key players. In June 1997, CNPC and the Kazakhstan government signed an agreement for the equity

4. Xuxin Wu, '经济全球化下中亚石油国际合作和中国石油国际合作之比较' [Comparison between Sino–Central Asian oil cooperation with China's international oil cooperation under the globalized economy], *Journal of Shengli Oilfield Party School* 19, no. 1 (2006): 101–103.

acquisition of AktobeMunaiGas.[5] It obtained a 20-year user licence for the Zhanazhol gas site and the Kenkiyak oil site. Since then, China has made a number of upstream acquisitions in Kazakhstan. CNPC acquired stakes in the Salejan field and Aktyubinsk field in 2002 and 2003, respectively.[6] China also attempted to compete with other upstream players in the region. In 2003, CNPC acquired the North Buzachi oil and gas field from the Nimir Petroleum Company and Chevron.[7] This acquisition marked the first overseas oil field that was 100% owned by CNPC.

In late 2007, CNPC signed an agreement with KazMunayGas to export gas annually to China. Both parties confirmed the construction of the Kazakhstan-China gas pipeline, which became a part of the great Sino–Central Asia gas pipeline.[8] In April 2009, CNPC and KazMunayGas purchased MangistauMunaiGas for US$3.3 billion and eventually acquired the entire company.[9] CNPC was not the only active Chinese player in Kazakhstan. In 2004, Sinopec acquired the American First International Oil Company for around US$160 million, allowing the NOC to access the user licences of small fields such as Begaidar, Fedorov, Mezhdurechensk, Sagiz, and Sazankurak.[10]

Chinese NOC's energy investment was also active in other Central Asian countries. In 2006, Turkmenistan signed an energy agreement with China for the delivery of 30 bcm of Turkmen gas to China in 2009.[11] CNPC further signed a production agreement in 2007 in the Bagtyyarlyk field in Eastern Turkmenistan as well as a development contract in Turkmenistan's South Yolotan onshore gas field.[12] During former Chinese President Hu's visit to Uzbekistan in 2004, CNPC and Uzbekneftegaz signed several oil and gas contracts. Later in 2006, the two state-owned companies signed an oil and gas exploration agreement whereby CNPC was set to drill twenty-seven exploration wells in the country.[13] Additionally, in 2005, Sinopec established a joint venture with the Ukrainian national oil and gas company to collaborate on

5. CNPC. 'CNPC in Kazakhstan', accessed 3 March 2012, http://classic.cnpc.com.cn/en/cnpcworldwide/kazakhstan.
6. Stephen J. Blank, 'China, Kazakh Energy and Russia: An Unlikely Ménage à Trois', *China and Eurasia Forum Quarterly* 3, no. 3 (2005): 99–109, 103; CNPC, 'CNPC in Kazakhstan', CNPC, 2008.
7. Energy Intelligence, 'Major Target: Chinese Set Their Sights on Kazakhstan', *Energy Intelligence*, 21 July 2003, https://www.energyintel.com/0000017b-a7a1-de4c-a17b-e7e331280001.
8. Sébastien Peyrouse, 'Central Asia's growing partnership with China' (Working Paper, EUCAM, 2008).
9. John Seaman, *Energy Security, Transnational Pipelines and China's Role in Asia* (Paris: Institut Français des Relations Internationales, 2010), 24.
10. Sébastien Peyrouse, 'Economic Aspects of the Chinese–Central Asia Rapprochement' (Working Paper, Central Asia–Caucasus Institute & Silk Road Studies Program, 2007).
11. Sébastien Peyrouse, 'Central Asia's Growing Partnership with China' (Working Paper, EUCAM, 2008).
12. John Seaman, *Energy Security, Transnational Pipelines and China's Role in Asia* (Paris: Institut Français des Relations Internationales, 2010).
13. Ramakant Dwivedi, 'China's Central Asia Policy in Recent Times', *China and Eurasia Forum Quarterly* 4, no. 4 (2006): 145–157, 148.

the exploration and development of the Andizhan oil field in Uzbekistan.[14] In 2008, the two companies further signed a cooperation agreement to develop a joint venture in the Mingbulak oil field.[15]

Transnational pipelines in China–Central Asia energy cooperation

Transnational oil and gas pipelines are a cornerstone in the China–Central Asia energy cooperation. Key pipeline projects include the construction of the Kazakhstan-China oil pipeline and the Central Asia–China gas pipeline.

Kazakhstan-China oil pipeline

The Kazakhstan-China oil pipeline was jointly developed by CNPC and the Kazakh oil company, KazMunayGas.[16] The current capacity of the pipeline is 14 million tonnes per year, and it reached a nominal capacity of 20 million tonnes per year in 2014.[17] The idea of an oil pipeline between Kazakhstan and China was conceptualised in 1993 and was agreed upon by CNPC and KazMunayGas in 1997 when both parties engaged in energy cooperation. The two parties signed a memorandum of understanding to build an eastward oil pipeline to China with an estimated cost of US$3.5 billion. China postponed construction due to price issues and competition from the Baku-Tbilisi-Ceyhan project. Yet, the first visit of former Chinese President Hu Jintao to Kazakhstan in June 2003 renewed China's momentum in building the pipeline[18] owing to the increase in Kazakhstan's oil production, an increase in oil prices worldwide, and the Angarsk failure.

Starting in September 2004, this 2,228-km-long pipeline stretches from the oil city of Atyrau in the western part of Kazakhstan to Alashankou in China's Xinjiang Province, at the border of the two countries.[19] The Kazakhstan-China oil pipeline is supplied from the Aktobe region's oil fields and Kashagan field

14. OGJ, 'Russian-Chinese Competition May Marginalize US, European Influence', *Oil and Gas Journal*, 13 March 2006, http://www.ogj.com/articles/print/volume-104/issue-10/exploration-development/central-asia-oil-and-gas-2-russian-chinese-competition-may-marginalize-us-european-influence.html.
15. Anne Marie Roantree, 'CNPC, Uzbekistan Tie Up to Develop Mingbulak Oilfield', *Reuters*, 20 October 2008.
16. Xinhua News, 'Kazakhstan-China Oil Pipeline Opens to Operation', *Xinhua News*, 12 July 2008.
17. Cecilia Rehn, 'Kazakhstan-China oil Pipeline Could Start Operating at Its Full Capacity by 2014', *Energy Global*, 9 November 2012.
18. Susann Handke, 'Securing and Fuelling China's Ascent to Power—The Geopolitics of the Chinese-Kazakh Oil Pipeline' (Working paper, Clingendael Institute of International Relations, 2006), 43–44.
19. Xinhua News, 'Kazakhstan-China Oil Pipeline Opens to Operation', *Xinhua News*, 12 July 2008.

in Kazakhstan.[20] The first phase of the Kenkiyak-Atyrau pipeline, originally in Kazakhstan, was officially put into operation in March 2003, covering a length of 448 km and the design stipulating an oil transportation capacity of 6 million tonnes per year. The second phase of the Atasu-Alashankou pipeline connecting China's Xinjiang Province began in September 2004, and was put into commercial operation in July 2006, covering 965 km, with the design stipulating an oil transportation capacity of 10 million tonnes per year. The third phase of the Kenkiyak-Atasu pipeline was constructed in May 2008 and put into commercial operation in October 2009, covering a length of 1,344 km, with the design stipulating an oil transportation capacity of 10 million tonnes per year.[21]

These projects were built and are operated jointly by both Chinese and Kazakh parties. The Atasu-Alashankou section of the pipeline, which is near the Chinese-Kazakh border, is operated by MunaiTas, a joint venture between CNPC and KazMunayGas.[22] The Kenkiyak-Kumkol section in the Kazakh territory was built and is operated by a joint venture between China National Oil and Gas Exploration and Development Corporation (CNODC) and KazTransOil JSC.[23] At the Chinese end, the Kazakhstan-China oil pipeline is connected to the Dushanzi District in Xinjiang Province of China via the Alashankou-Dushanzi crude oil pipeline.

Central Asia–China gas pipeline

The Central Asia–China gas pipeline is China's largest overseas natural gas project, involving four sections of pipeline infrastructures in four countries: China, Kazakhstan, Uzbekistan, and Turkmenistan. China initiated the project in the early 2000s with offers of infrastructure development and loans with low interest rates.[24] The initial proposal for this pipeline was presented as the Kazakhstan-China gas pipeline when the agreement was signed in June 2003, when China's President Hu Jintao visited Kazakhstan.[25] The CNPC-KazMunayGaz partnership planned to start the construction of the

20. Alexander Sukhanov, 'Caspian Oil Exports Heading East', *Asian Times*, 9 February 2005.
21. Sébastien Peyrouse, 'Central Asia's Growing Partnership with China' (Working Paper, EUCAM, 2008); Cunhui Li, '中哈原油管道合作双赢开辟能源通道' [Win-Win Situation in Sino-Kazakhstan oil pipeline open energy corridor], *China Petroleum Daily*, 17 December 2010.
22. People's Daily, 'Kazakhstan-China oil Pipeline to Open in May', *People's Daily Online*, 27 February 2006.
23. Maria Golovnina, 'Kazakhstan, China Agree on Pipeline from Caspian', *Reuters*, 18 August 2007.
24. Keunwook Paik, Marcel Valerie, Lahn Glada, John V. Mitchell, and Erkin Adylov, 'Trends in Asian National Oil Company Investments Abroad: An Update' (Working Paper, Chatham House, 2007), http://www.chathamhouse.org.uk/files/6427_r0307anoc.pdf.
25. China Daily, 'China, Kazakhstan Discuss Cross-Border Gas Pipeline', *China Daily*, 25 August 2004.

6
Conclusion

What Is Next for China in Global Energy Governance?

Chinese energy security has traditionally been associated with a political-economic approach, but supply disruptions due to geopolitics and climate change over the past two decades have driven China to promote global energy governance as a way to enhance its energy security. The year of 2006–2007 was a turning point, when China began to adopt a more balanced energy strategy that reflected this shift. Oil price fluctuation, global financial crisis, and climate risks drove China to look into global governance as a means to enhance its energy security. Since then, China has been engaged in many multilateral platforms and international organisations for energy cooperation. In the 2010s, the BRI and Paris Agreement added extra momentum to China's participation in global energy governance. There has been a long debate over to what extent China's international energy behaviour has shifted to a more global governance approach.

The discussion of multilateral energy cooperation as a means to enhance energy security first appeared in the white papers of 2007 on China's foreign affairs and energy policy. The Chinese government emphasised the concept of global energy governance in its white paper on energy in 2012 and 2020, policy documents of the BRI, and action plans for carbon reduction. These acts reflect how the Chinese leadership has changed its understanding of energy security towards multilateral energy cooperation and global energy governance.

However, while calling for global energy governance, Chinese authorities have also shown a mixed attitude towards international organisations led by rivals. A common viewpoint shared among Chinese scholars and political elites is that China should follow its own development path instead of blindly joining a Western-led international organisation. While there is no urgent need to join existing international organisations, China has started creating its own multilateral platforms and rules for energy cooperation, particularly under the BRI. This chapter summarises the multilateral practices of China's international energy cooperation in the following four case studies.

Belt and Road Initiative and the Asia Infrastructure Investment Bank

The BRI has turned China's engagement in Eurasia into a multilateral engagement strategy that has tapped into global governance via China-led institutes such as the AIIB. The AIIB is the first MDB to have a majority of members from developing countries. With both geo-economic and geopolitical dimensions, energy cooperation in the BRI intends to spur Eurasian connectivity by using the AIIB's massive potential for investment. Aligning with the Vision and Actions on Energy Cooperation, energy investment in the AIIB has emphasised the interconnectivity of infrastructures, sustainable development, and the mobilisation of private capital.

The AIIB reflects the willingness of China to institutionalise its participate in global energy governance, and has allowed China to enjoy primary leadership in an international organisation with substantial economic involvement in the global South amid growing climate pressures. Moreover, a broad membership base, including both developing and developed countries, brings the AIIB a solid reputation, legitimacy, and new agenda-setting power because it can ensure that the bank follows standards such as accountability, transparency, and governance.[1] Under the umbrella of multilateralism—with Western governments such as the UK as key members of the AIIB—it is difficult for the bank to deviate from the norms, rules, and practices of such governments support.

Since the regions under the BRI contain significant divergences in operational and investment risks, the AIIB energy projects shown in Appendix Table 1—which involve cross-border or multinational issues, such as cross-border transmission, transition of energy, interest distribution, responsibility, and national sovereignty—can be exposed to investment delays or disputes. A 2015 report from the Brookings Institute highlighted that "Chinese investment is equally distributed between good and poor (i.e., riskier) governance environments, whereas Western investment is concentrated in the former."[2] Thus, it is necessary to create a web of investment-treaty protections overlying the route to provide a crucial means of reducing the risks involved in the investment.

However, China has attempted to avoid over-participation in restrictive treaties established by the West and has been reluctant to accept certain requirements imposed on members in these organisations.[3] Instead, establish-

1. John Gerard Ruggie, *Multilateralism Matters: The Theory and Praxis of an Institutional Form* (New York: Columbia University Press, 1993).
2. Weijie Chen, David Dollar, and Heiwai Tang, 'Why Is China Investing in Africa? Evidence from the Firm Level', *The World Bank Economic Review* 32, no. 3 (2018): 610–632.
3. For example, China remains an observer of the Energy Charter partly because a full membership requires the ratification of the Energy Charter Treaty (ECT), which could involve potential political risks. In other words, China wants to remain unobligated and to be able to 'exit' whenever it feels it is necessary to do so. The Chinese authorities were alarmed by the 2014 Yukos lawsuit filed under the ECT against the Russian government. The authorities

ing a new institution would allow China to have a greater influence in global governance of energy and climate issue and to establish its own standards for future investment and trade. If the AIIB offers more competitive and permissive loans than the Western creditors, developing countries that are not able to meet the criteria of these creditors may turn to the AIIB. In the face of the competition imposed by China and the AIIB, the norms, rules, and practices of existing financing system may be undermined in the long run.

China–Central Asia Energy Cooperation

Given its strategic location, China views Central Asia as a key partner in its 'going-out' strategy and the BRI. Their relationship is mainly driven by China's need to diversify energy supplies and security goals to create an 'amicable, secure and prosperous neighbourhood'.[4] China's top leaders attempted to promote China–Central Asia energy cooperation via diplomatic means, such as strengthening relations with Central Asian countries and supporting the activities of Chinese NOCs in Central Asia. While energy diplomacy is believed to have renewed the momentum of Chinese energy cooperation with Central Asia, joint energy infrastructure has also strengthened the energy ties between China and these regions.

The Central Asia–China transnational pipeline announced in 2007 is considered one of the most outstanding achievements in China's energy cooperation with Central Asia that has structurally changed how China works with Central Asian countries. This transnational gas pipeline is China's first and largest cross-border gas pipeline that has tied China with its Central Asian partners in an infrastructure network and long-term supply contracts. Moreover, it has laid the foundation for multilateralism because the need for transnational transit management has encouraged China to look into better energy governance from a multilateral approach. This prospect is further reflected in the attention paid by Chinese authorities to the potential for a multilateral regulatory platform such as ECT in protecting Chinese NOCs' interests in the region.

SCO appeared to be an ideal platform for China and its Central Asian partners to manage the transnational pipeline and their broader energy cooperation. Indeed, since 2003, over 100 energy projects have been placed under SCO, with a series of agreements regarding multilateral energy cooperation being signed. The construction of a Central Asia–China pipeline in addition to Russia's proposal of establishing an 'Energy Club' in 2006 reignited Chinese

thus paid attention to the risk of signing the ECT rather than how the ECT could protect the investment or the company. The authorities expressed concern about whether the Chinese government might be exposed to similar potential lawsuits that were faced by the Russian government.

4. Zhaoxing Li, 'Peace, Development and Cooperation—Banner for China's Diplomacy in the New Era', *Chinese Journal of International Law* 4, no. 2 (2005): 677–683.

interest in using SCO as a multilateral platform to promote energy cooperation. However, due to a lack of effective legal mechanisms in the SCO, the actual implementation of energy projects among its member states remained bilateral. Operational risks of large infrastructure projects will still drive China to explore more effective coordination mechanisms with Central Asian countries, but that will require significant diplomatic effect, substantial financial resources, and years of time.

China-Africa Energy Cooperation

Driven by China's increasing need to reduce its oil dependency on the Middle East, the China-Africa energy cooperation began to expand in the early 1990s, and eventually became a key aspect in China's 'going-out' strategy and the BRI. Although oil and gas projects have predominantly characterised China's energy engagement with African countries over the last three decades, China's signing of the Paris Agreement has gradually shifted its cooperation towards a more climate and sustainability centred one. Despite being a latecomer to Africa, China has its advantages in establishing an energy relationship with African countries, including China's effort in promoting of South-South cooperation.

While Chinese NOCs have taken the initiative to expand investment in Africa, top leadership meetings and bilateral ties have also been a key means to promote China-Africa energy cooperation. In 2006, a pan-African approach was proposed in China's African Policy, which aimed to 'encourage and support competent Chinese enterprises to cooperate with African nations . . . to develop and exploit rationally their resources'.[5] The policy paved the way for promoting energy and climate cooperation in a more multilateral way—FOCAC, a joint ministerial conference held every three years to cultivate a long-term China-Africa relationship with solidarity and cooperation. Through FOCAC, China has attempted to facilitate market access, optimise trade structures, promote green development, offer aid, and settle trade disputes. FOCAC also provides multilateral consultation and coordination mechanisms with which China and Africa can handle practical situations. More importantly, FOCAC is established and led by developing countries and serves as a multilateral platform for South-South cooperation.

However, implementation of plans agreed in FOCAC is not always effective. First, although the FOCAC meetings issued documents with follow-up plans to facilitate multilateral cooperation between China and Africa, the details for actions are not elaborated. It is difficult for either side to implement the policies and visions originating from the Forum successfully. Second, FOCAC lacks a well-organised and legal structure to facilitate or protect

5. PRC State Council, 'Government Issues African Policy Paper', PRC State Council, 2006, http://www.gov.cn/misc/2006-01/12/content_156509.htm.