



CHINA INVESTMENT REPORT

 COMMON RULES FOR *GLOBAL ENERGY SECURITY*



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FOREWORD

After much engagement and retaining the status of “Observer by invitation” for more than a decade, China formally took the significant step of upgrading its status within the Energy Charter Process by signing the International Energy Charter in The Hague in 2015. The Energy Charter and China have a long-standing history of cooperation, which has been recently underpinned by establishing the International Energy Charter-China Electricity Council Joint Research Centre in Beijing.

China is a pivotal country in the global energy sector. The country is not only a major producer of fossil fuels, but also the world’s largest importer of fossil fuels. China is also cementing its global dominance as a producer of renewable energy. It is a major investor in several countries across the globe, as well as a significant producer of clean-energy technologies. The Energy Charter Treaty (ECT), with its vast membership and related legal instruments and institutions, is the optimal platform for China in terms of promoting regional energy cooperation and facilitating the implementation of infrastructure projects within the framework of the “Belt and Road” Initiative.

The China Investment Report aims at providing detailed information on the country’s energy investment climate. The Report also illustrates investment-related aspects of complex transition of China’s energy sector. Starting with a general overview of the country’s economic, political, and social situations (Chapter 1), the Report gives insights on China’s general energy policy (Chapter 2), market structure of the energy sector (Chapter 3), investment policy and flows (Chapter 4), and domestic investment legislation (Chapter 5).

Linking China’s investment policies with energy policies, this Report aims at facilitating Foreign Direct Investment (FDI) and promoting sustainable development in China. Moreover, the Energy Charter Secretariat presents this Report in order to share reliable and comprehensive information with investors who may consider investing in China’s energy sector. The information provided in the Report has the potential to influence investors’ decisions regarding FDI, ranging from the political and institutional setup to concrete legislative conditions of doing business in the country.

The challenge for China’s decision-makers is to design and develop a market and regulatory frameworks that will remove barriers for foreign investors, accelerate energy transition, and attract needed investment, while avoiding stranded assets or disputes with investors. The coming few years will be essential to re-design the energy sector of China along the entire value chain.

Finally, I would like to thank Li Xiang, secondee from the National Energy Administration of China, for his dedication to developing the China Investment Report and for being instrumental in strengthening relations with China. Looking forward, the Energy Charter Secretariat endeavours to continue its close cooperation with China in order to expedite its progress towards the ECT. Recognizing China’s essential role in global energy governance, the Secretariat intends to assist China in taking an active role during the next phases of the Energy Charter Process.

Urban Rusnák,
Secretary General of the Energy Charter Secretariat

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LIST OF ABBREVIATIONS

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AIIB	Asian Infrastructure Investment Bank
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
Bcm	Billion cubic meters
b/d	Barrels per day
BIT	Bilateral Investment Treaty
BRICS	Brazil, Russia, India, China, and South Africa
CCDMF	China Clean Development Mechanism Fund
CCPIT	China Council for the Promotion of International Trade
CDM	Clean Development Mechanism
CEC	China Electricity Council
CER	Certified Emission Reduction
CIETAC	China International Economic and Trade Arbitration Commission
CIPA	China Investment Promotion Agency
CBM	Coalbed Methane
CNCA	China National Coal Association
CNOOC	China National Offshore Oil Corporation
CNPC	China National Petroleum Corporation
CNY	Chinese Yuan (Renminbi)
CPC	Communist Party of China
CPI	Customer Price Index
CPPCC	Chinese People's Political Consultative Conference
CSPG	China Southern Power Grid
DTAA	Double Taxation Avoidance Agreement
EU	European Union
FDI	Foreign Direct Investment
FIE	Foreign - Invested Enterprise
FTA	Free Trade Agreement
FTZ	Free Trade Zone
FYP	Five-Year Plan
GDP	Gross Domestic Product
GEF	Global Environment Facility
ICSID	International Center for the Settlement of Investment Disputes
IEA	International Energy Agency
IMF	International Monetary Fund

INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
M&A	Mergers and Acquisitions
MDGs	Millennium Development Goals
MES	Market Economy Status
MIIT	Ministry of Industry and Information Technology
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MOFCOM	Ministry of Commerce
MoHURD	Ministry of Housing and Urban-Rural Development
MoLR	Ministry of Land and Resources
MoST	Ministry of Science and Technology
MoU	Memorandum of Understanding
MoWR	Ministry of Water Resources
Mtce	Million tonnes of coal equivalent
Mtoe	Million tonnes of oil equivalent
NBS	National Bureau of Statistics
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NEC	National Energy Commission
NME	Non-Market Economy
NNSA	National Nuclear Safety Administration
NPC	National People's Congress
OFDI	Outward Foreign Direct Investment
OPEC	Organisation of the Petroleum Exporting Countries
PEC	Primary Energy Consumption
PENT	Pre-Establishment National Treatment
PRC	People's Republic of China
R&D	Research and Development
SACMS	State Administration of Coal Mine Safety
SAIC	State Administration for Industry and Commerce
SAR	Special Administrative Region
SASAC	State Asset Supervisory and Administration Commission

SASTIND	State Administration of Science, Technology and Industry for National Defence
SCO	Shanghai Cooperation Organisation
SDR	Special Drawing Right
SEI	Strategic and Newly Emerging Industry
SGCC	State Grid Corporation of China
Sinopec	China Petrochemical Corporation
SIPO	State Intellectual Property Office
SOA	State Oceanic Administration
SOE	State-Owned Enterprises
SPRs	Strategic Petroleum Reserves
TPES	Total Primary Energy Supply
UK	United Kingdom
UN	United Nations
UNCTAD	United Nation Conference on Trade And Development
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
WTO	World Trade Organisation

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Key Development Trends of the Chinese Economy

Since its policy and free market reform in the 1980s, China has been among the world's fastest-growing economies, with an average Gross Domestic Product (GDP) growth of 9.74 percent each year.¹ Starting 2014, however, China has witnessed a slowdown in both its economic and trade growth rates, which can be seen as a feature of the Chinese economy transitioning from resource-intensive economic and industrial growth into a "New Normal" of slower but more stable and sustainable development, driven by the country's more efficient use of energy resources and decrease in energy consumption.

Under this New Normal, China introduced the 13th Five-Year Plan (FYP) in 2016, which aims at rebalancing the economy and ensuring the quality of growth, while maintaining the objective of achieving a middle-income society by 2020. Particularly, the 13th FYP for Energy Development (2016-2020) focuses on building a modern energy system that is clean, low-carbon, secure, and efficient.² It also takes into account the growing trend of urbanisation in all regions in China and the need for securing sufficient energy supply for meeting growing energy demand in the urban areas.

Globally, China has been committing itself to facilitating international collaboration and overseas investment. In 2013, the Chinese government put forward the "Belt and Road" Initiative to promote the orderly and free flow of economic factors, allocate resources more efficiently, and enhance the connectivity with Asian, European, and African continents.³ For the energy sector, specifically, the initiative aims at boosting the interconnectivity of energy infrastructure, strengthening inter-regional cooperation in energy resource exploitation, encouraging energy infrastructure projects, facilitating energy project financing, and developing new energy technology.

Key Trends in the Energy Sector

China's energy production has been growing the fastest in the world, jumping from 1,385.7 million tonnes of coal equivalent (Mtce) in 2000 to 3,614.8 Mtce in 2015.⁴ Among this, coal is the dominant source of energy in China, contributing to more than 60 percent of the country's energy production.⁵ Meanwhile, however, there have been structural changes in China's energy production profile.

On the one hand, the country's production of gas and electricity (including renewable energy-generated) has been increasing between 2000 and 2015. On the other hand, China observed a decline in both coal and oil production in 2016 due to the continuing decline of international coal and oil prices, as Chinese enterprises saw import as more profitable than domestic production. Another important reason of this trend is the ongoing and deep supply-side reform that include the cut-off of old and inefficient generation overcapacity.

As a result, China's coal and oil imports have been increasing. In 2016, particularly, China imported 260 million tons of coal, 25.2 percent higher than that in 2015.⁶ The volume of crude oil import reached 38.11 million tons in 2016, 13.6 percent higher than that of the previous

1 Available at: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2015&locations=CN&start=1980>

2 Available at: http://www.ndrc.gov.cn/zcfb/zcfbtz/201701/t20170117_835278.html

3 Available at: http://english.gov.cn/news/top_news/2015/03/28/content_281475079055789.htm

4 Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

5 *ibid.*

6 Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html

year.⁷ China also imported 72.3 billion cubic meters (bcm) of natural gas in 2016, making it the world's fourth largest gas importer.⁸

In total, China's energy import increased from 143.3 Mtce in 2000 to 774.5 Mtce in 2015,⁹ and the country replaced the US as the world's largest net importer of petroleum and other liquid fuels in 2013.¹⁰ Accordingly, China's energy exports have been decreasing in general, from 117 Mtce in 2002 to 97.8 Mtce 2015, albeit some fluctuations.¹¹

China remained the world's largest energy consumer in 2016, contributing to 27 percent of the global energy demand growth.¹² Nevertheless, the period of 2015-2016 marks China's lowest growth rate of energy consumption since 1997 (1.3 percent).¹³ This slowdown is primarily led by a continuing fall in the country's coal consumption between 2013 and 2015, which can in turn be explained by China's entering into the economic New Normal, the development of alternative energies, and the improvement of energy efficiency in coal-consuming industries.

In contrast, China's consumption of oil, natural gas, electricity, and renewable energy increased in 2016. In the renewable energy sector, specifically, China overtook the United States (US) as the largest consumer of renewables in 2016. China's solar consumption increased by 71.5 percent, wind consumption grew by 29.4 percent and geothermal and biomass rose by 21.4 percent.¹⁴

Key Trends of Foreign Direct Investment (FDI) Inflows and Outflows

The world energy demand is projected to grow by 1.3 percent per annum (p.a.) until 2040. Almost all of this growth is expected to come from emerging economies in the Asia Pacific region, whereas the energy demand of countries within the Organisation of Economic Co-operation and Development (OECD) will likely remain stable. China is expected to be the largest growing market for energy in the years to come.¹⁵

China was the largest destination of energy investment in 2016, accounting for 21 percent of the global total.¹⁶ The US and India are respectively the 2nd and 3rd largest destinations of energy investment after China. Most of the investments have been driven by the low-carbon transition with tremendous investment witnessed in power generation and long-distance networks.

According to the 2017 World Investment Report of the International Energy Agency (IEA), the total energy investment in China (total energy supply and energy efficiency) amounted to \$357 billion in 2016. The renewables have become the most attractive sub-sector (\$90 billion), while the country's spending on coal-fired plants has dropped. Coal investment has been

7 Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html and http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

8 Available at: <https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>

9 *ibid.*

10 *ibid.*

11 *ibid.*

12 Available at: <http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/country-and-regional-insights/china.html>

13 Available at: <http://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>

14 Available at: <http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/country-and-regional-insights/china.html> and <http://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-renewable-energy.pdf>

15 Available at: <https://www.bp.com/content/dam/bp/pdf/energy-economics/energy-outlook-2017/bp-energy-outlook-2017.pdf>

16 See *World Energy Investment 2017*, International Energy Agency.

falling since 2012. In 2016, it amounted to only \$12 billion, 20 percent lower than in 2015.¹⁷ The total energy investment in China, India, and Southeast Asia amounted to \$517 billion in 2016 out of \$1.7 trillion of total energy investment worldwide.¹⁸

China's outward foreign direct investment (OFDI) has been increasing significantly since the official announcement of the Go Global Strategy. By 2016, China's net OFDI reached \$170 billion,¹⁹ making it the second largest investor in the world after the US.²⁰ In the energy sector, China's OFDI in overseas resource exploitation and construction projects have been surging over the past decade. Additionally, China has been increasingly investing in advanced energy technology and Research and Development (R&D) projects around the world, in order to stimulate the country's adaptation of new technologies.²¹

China's share of investment in energy R&D in the world reached 20 percent in 2016, with an annual increase rate of 7 percent since 2012.²² China has become a major energy investor involved in infrastructure projects in many parts of the world. In the future, China's OFDI will continue to focus on the construction of cross-border electricity transition channels and the upgrading of power grids have been on the cooperation agenda between China and its neighbouring countries.

Power enterprises are also encouraged to participate in power generation and grid projects in other regions. To finance several projects, the Chinese Government has established a \$40 billion Silk Road Fund to support investments of SOEs around the world, with a desire to create a network of energy infrastructure with Central Asia, South Caucasus, Middle East, Europe Africa and Latin America.

Key Aspects of the Legal Regime for Energy Investment

There are three main forms of entities through which foreign investors can establish investment in China: Chinese-foreign equity joint ventures, Chinese-foreign contractual joint ventures, and wholly foreign-owned enterprises. In addition, Chinese-Foreign Cooperative Exploitation is a form of foreign investment that allows international collaborative exploitation of resources in the energy sector.

Great regulatory and legislative efforts have been made by the Chinese government to improve the domestic investment environment and enhance the ease of doing business for foreign investors. First, the government now issues "five-in-one business licenses" for both domestic and foreign investors, which has largely streamlined and simplified the business registration procedure. Second, China has also been taking measures to improve its intellectual property rights regime, and towards greater liberalisation of capital flows.

Finally, China intends to grant foreign investors national treatment in the pre-establishment phase under its "Pre-establishment National Treatment (PENT) Plus a Negative List" policy. This means that all the foreign investors whose activities are not listed on the negative (restrictive or prohibited) list, will be granted treatment which is no less favourable than that granted to domestic investors starting from the pre-establishment stage. Additionally, Foreign-Invested Enterprises (FIEs) also receive compensation in case of expropriation.

¹⁷ *ibid.*

¹⁸ *ibid.*

¹⁹ Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

²⁰ Available at: http://unctad.org/en/PublicationsLibrary/wir2017_en.pdf

²¹ Available at: http://www.sdpc.gov.cn/zcfb/zcfbtz/201701/t20170117_835278.html

²² *ibid.*

INTRODUCTION

Introduction

The Role of FDI for China's Energy Transition

The importance of FDI in the energy sector is a reality of the globalized world, especially in the era of energy transition with the need to decarbonise, modernise, and stabilise this sector. The transfer of capital, knowledge, and technology, as well as the mobility of personnel and materials, is essential to cope with the rising demand of the world population that continues to grow. In addition, the mobilisation of private capital is essential for the development of the energy sector since governments are unable to fund large capital expenditure programs solely from state budgets.

FDI has had a positive effect on China's structural reform and sustainable development. As an important part of China's development plan, the energy-sector reform demands foreign investment to finance its projects and policy implementation. Creating favourable conditions for sustainable energy investments will be one of the greatest challenges for China in the years to come.

In March 2016, the Chinese government announced its 13th FYP, setting the "supply-side structural reform" as the country's main thread for development. Specifically, great attention has been paid to the facilitation of China's energy-sector structural reforms. Seeing the sustainable development of the energy sector as indispensable to the country's long-run growth, China will guide more foreign capital investment to support new technology, energy conservation, environmental protection, and advanced manufacturing. Moreover, by building a modern financial system, China hopes to strengthen the infrastructure for energy development projects, water security projects, as well as transportation projects.²³

Considering FDI as a catalyst for innovation and economic structural transformation, China sets a number of priorities in the 13th FYP to further open up its economy, facilitate foreign investment and trade, reduce restrictions on market access, bring in more foreign capital and advanced technology, and increase the overall efficiency of foreign capital utilisation.²⁴

In addition, in April 2017, the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA) issued "Energy Production and Consumption Revolutionary Strategy (2016-2030)" which provides concrete policy goals beyond the 13th FYP (2030 targets) and sets the directions for the country in the long run until 2050. The Strategy is China's response to the ongoing development of clean energy and global quest for low-carbon economies.

The Strategy 2016-2030 is intended to accelerate China's energy transition and help implement its pledges to the Paris Agreement. Accommodating the challenges of reforming the energy supply-demand structure of China's energy sector, the NDRC and the NEA are responsible for strengthening coordination and improving the working mechanism of all state institutions, as well as implementing the goals at timely manner.²⁵

The energy demand in China will continue to increase, given the country's growing population and prosperity. The challenge of providing the energy supplies that power the Chinese economy is coupled with the need to do so in ways that reduce energy-related greenhouse gas emissions and mitigate the risk of climate change. As the world electricity consumption

23 Available at: http://en.ndrc.gov.cn/policyrelease/201612/t20161207_829924.html

24 Available at: <http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf>

25 Available at: <http://www.ndrc.gov.cn/gzdt/201704/W020170425548780357458.pdf>

rises, the types of energy used to power generation will continue to diversify -both globally and regionally - led by natural gas, nuclear, and renewables. In this regard, China will need to boost energy investment to keep up with this considerable demand growth. Simultaneously, the country will be phasing out old and inefficient power generation capacity according.

Challenges and Prospects for the Future

To enhance its energy security and meet the rapid growth of energy demand, China will need to improve its investment structure and undertake more infrastructure projects. In particular, China will need to pursue large-scale investment in power generation, including the significant increase of renewable capacity, gas-storage capacity, and removing transmission bottlenecks between remote regions and high-demand centres in the eastern China. At the same time, the country will challenge the need of subsequent optimisation of its energy infrastructure in light of its large energy overcapacity.

One of the greatest challenges for China will be the implementation of the “Belt and Road” Initiative, which was launched by the Chinese President Xi Jinping in 2013 as a way to deepen cooperation and expand the development among the countries along the Belt and Road.

According to the white paper of the Chinese Government entitled “Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road,” there are several key principles and drivers within the energy dimension, notably the cooperation on boosting energy investment, removing barriers to investment, facilitating financing instruments, improving and expanding cross-border trade and energy flows, enlarging energy interconnectors, improving energy efficiency, and promoting clean energy investment.²⁶ Significant investment will have to be established within the Chinese territory as a part of cross-border energy projects along the route of Belt and Road.

²⁶ Available at: http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html

GENERAL INFORMATION

General Information

Country Overview

China is located in the eastern part of Asia, on the western Pacific Rim. It is the third largest country in the world based on area and shares its land border with 14 countries.²⁷ The Bohai Sea, Yellow Sea, East China Sea, and South China Sea, located in the east and south of China, together form the country's 18,000-kilometer coastline.

China's landscape is vast and diverse, ranging from forest steppes and deserts in the arid north, to subtropical forests in the wetter south. Accordingly, the climate in China differs from region to region. The mid-latitude part of China has a continental and seasonal climate, the southern part of China belongs to the Sub-tropical Zone, and the northern part of the country is in the Frigid Zone. The diversity of China's landscape and climate has resulted in different living habits.

China is the world's most populous state comprising fifty-six ethnic groups. The Han people account for more than ninety percent of China's population, while the remaining fifty-five groups are generally referred to as "ethnic minorities." These ethnic groups include, among others, the Mongolian, Hui, Tibetan, and Uygur communities.

Table 1.1 China at a Glance

Official name	People's Republic of China (PRC)
Area	9.6 million square kilometres
Capital	Beijing
Population	1.37 billion
Language	Chinese
Currency	Chinese Yuan Renminbi (CNY)
Major Religions	Atheism, Confucianism, Buddhism, Taoism, Islam, Catholicism and Protestantism
Main energy resource base	Coal, petroleum, natural gas, and radioactive minerals, hydropower

Development goals and plans

China's primary development policy is formulated every five years in its FYPs which set specific development targets for different sectors, including the energy sector. In March 2016, China introduced its 13th FYP, which would take effect during the period from 2016 to 2020. One of the most important objectives of the 13th FYP is to double both the size of the Chinese economy and the per-capita income from 2010 to 2020. In addition, the 13th FYP aims at developing the service industry and addressing environmental and social imbalances. It also targets to reduce pollution and increase energy efficiency.

The 13th FYP can be viewed as an attempt of the Chinese government to steer the economy toward a "New Normal" of slower but more stable and sustainable economic growth. The targeted annual growth under the current FYP has been revised from 7 percent (as set in the previous FYP) to 6.5 percent. This shows the intention of the government to rebalance the economy and ensure the quality of growth while maintaining the objective of achieving a middle-income society by 2020.

²⁷ These are Russia, India, Kazakhstan, Mongolia, Pakistan, Myanmar, Afghanistan, Vietnam, Laos, Kyrgyzstan, Nepal, Tajikistan, North Korea and Bhutan.

Beyond its domestic policy goals, China is also committed to encouraging foreign investment and international trade, as well as integrating itself more deeply into the global economy. In March 2015, the Chinese government published “Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road,”²⁸ known as the “Belt and Road” Initiative. The Initiative aims at promoting the orderly and free flow of economic factors, allocating resources more efficiently, and enhancing the connectivity of Asian, European, and African continents and their adjacent seas.²⁹

Political and Institutional Governance

There are four branches of power in China: The National People’s Congress (NPC), the Central Committee of the Communist Party of China (CPC Central Committee), the State Council, and the Chinese People’s Political Consultative Conference (CPPCC). These four branches exist at both the central and the local level, and work in parallel with each other.

• NPC

The NPC is the supreme legislative body of China. The functions and powers of the NPC include amending the Constitution and enacting laws governing criminal offences, civil affairs, state organs, and other matters. It is also responsible for electing and appointing members to the central state organs, including the President, the Premier, and all the Ministers. Vital state issues, such as the establishment of the Hong Kong Special Administrative Region (SAR) and the building of the Three Gorges Project on the Yangtze River, also fall under the purview of the NPC.³⁰

The Constitution of China recognises democratic centralism as the basis of the country’s political system. By endowing the power to the people, the Constitution gives them the right to directly elect the deputies of local People’s Congresses, who then vote indirectly for the NPC and the national legislature. The NPC is composed of deputies who are elected from provinces, autonomous regions, municipalities directly under the Central Government, SARs, as well as the People’s Liberation Army. Each Congress is elected for a term of five years. A total of 2,924 deputies were elected to the current 12th NPC.³¹

• CPC Central Committee

The CPC is the founding and the only governing political party in China. According to the Constitution of the CPC, only the CPC Central Committee can carry out the decisions of the National Congress, to lead the work of the CPC, and to represent the CPC internationally.³² The Central Committee plays a leading role in establishing the foundations and principles of Chinese socialism, mapping strategies for economic and social development, setting growth targets, and launching reforms.

The CPC Central Committee is composed of the highest leaders of the CPC. In October 2017, the 19th National Congress of the CPC held in Beijing, during which the 19th CPC Central Committee was elected. Currently, there are 204 permanent members and 172 alternative members. Among the permanent members, there are the Central Politburo (25 members), the Politburo Standing Committee (7 members), and the General Secretary of the CPC (1 person). Xi Jinping was reappointed as the General Secretary of the CPC.

28 Available at: http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html

29 Available at: http://english.gov.cn/news/top_news/2015/03/28/content_281475079055789.htm

30 Available at: http://english.gov.cn/archive/china_abc/2014/08/23/content_281474982987272.htm

31 Available at: http://www.npc.gov.cn/npc/xinwen/sywx/2017-03/15/content_2019131.htm

32 Available at: <http://cpc.people.com.cn/GB/64093/67507/6434557.html>

- **State Council**

The State Council is the supreme executive body responsible for state administration and it is accountable to the NPC. The State Council oversees the subordinate local-level governments and maintains membership with the top levels of the CPC. It is also responsible for carrying out the policies of the CPC, implementing laws adopted by the NPC, and handling issues related to China's internal politics, diplomacy, national defence, finance, economy, culture, and education.³³

The State Council consists of 35 members: the Premier, the Executive Vice Premier, 3 Vice premiers, 5 State Councillors (two of whom are also Ministers), and 25 Ministers and Chairs of major agencies. Of the 25 Ministries and Commissions, the most important ones are NDRC, Ministry of Commerce (MOFCOM), Ministry of Finance (MoF), and People's Bank of China, not only because they deal with macroeconomic issues in China, but also because their decisions are important for foreign investors. The NEA is an administrative bureau under the NDRC, and it focuses specially on the formation and implementation of policies in the energy sector.

- **CPPCC**

The CPPCC is a political advisory body consisting of delegates from a range of political parties and organisations, as well as independent members. It gives advice to the State Council and the administrations on all kinds of issues, such as economic and social development. However, it does not have the actual power to make decisions.

Finally, China's judicial system consists of the People's Courts and the People's Procuratorate. People's Courts are the judicial organs of China and exercise judicial power on behalf of the State. The People's Procuratorate is the sole organ that has the right to public prosecution. It has the power to arrest and exercise supervision over the judicial activities conducted by People's Courts and the public security organs. While China's judicial system is considered independent from the four power branches mentioned above, it is largely subject to the leadership of the CPC.

Economy at a Glance

Performance of the economy

Since opening up to foreign trade and implementing free market reforms, China has been among the world's fastest-growing economies, with an average GDP growth rate of 9.74 percent each year.³⁴ As the world's second largest economy and the largest industrial manufacturer, merchandise trader, and holder of foreign exchange reserves, China has become an important player in the global economy.

In 2016, China successfully held the G20 Summit in Hangzhou, which marked China's increasingly influential role in the international arena. The G20 Hangzhou Summit also served as a platform to promote China's "Belt and Road" Initiative, as well as various economic integration projects at the Asian Infrastructure Investment Bank (AIIB).

Nonetheless, China remains a developing country and its market reforms are yet to be completed. China's rapid economic growth has brought many challenges, including environmental unsustainability, income inequality, lack of innovation, and regional economic disparities. Significant policy adjustments are required in order for China to achieve and maintain sustainable growth.

³³ Available at: http://english.gov.cn/state_council/2014/09/03/content_281474985533579.htm

³⁴ Available at: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2015&locations=CN&start=1980>

Key Economic Development Indicators

The Chinese economy has grown steadily within the past two years, as the country's GDP increased at a rate of 6.9 percent from 2014 to 2015.³⁵ China's customer price index (CPI) rose by 1.44 percent in 2015,³⁶ meaning that China was successful in maintaining its inflation rate at a low but positive level. In addition, China has been taking a prudential perspective on public debt to ensure financial stability and currency sovereignty. The government debt counted for 41.14 percent of China's GDP in 2014,³⁷ while the world average was 87.80 percent.³⁸

In terms of trade, China's export and import volumes remain large. However, the country has been experiencing a slowdown in both its export and import growth rates. For instance, in 2015, China exported \$2,274,949 million worth of merchandise - roughly 13.80 percent of the world's total³⁹ - which made the country the largest exporter globally. At the same time, however, it experienced a continuous decline in the export growth rate, which reached a negative level for the first time in 2015.⁴⁰ Similarly, while China imported \$1,681,951 million in 2015 - making it the 2nd largest importer in the world⁴¹ - its import growth rate decelerated to 4 percent within the period of 2014-2016, from more than 10 percent in the previous years.⁴²

Consequently, while China has a positive trade balance (export minus import), the volume is smaller than before. This decelerated growth in trade volumes, as pointed out by the International Monetary Fund (IMF), is partially due to the fact that China is undergoing significant structural changes. The slowdown of exports is partly because the country is transitioning to a growth model driven less by exports, but more by consumption and services.⁴³

Major Economic Reforms

To maintain rapid economic growth, China needs comprehensive structural reforms that can facilitate the country's transition into a free market economy. In October 2015, the 5th plenary session of the 18th Central Committee of the CPC mapped out a blueprint for China's development over the next five years. The proposal focused on reforming China's financial system, stating that China would overhaul its trading mechanism of stocks and bonds, lower the leverage ratio, and establish a transparent capital market. A healthy and stable financial system would then contribute to financing China's development projects.

This long-run reform strategy is to be implemented in China's 13th FYP. The proposed reforms are guided by the Chinese government's concept of economic development, which is to actively pursue supply-side structure change, to expand aggregate demand, to ensure progress while maintaining stability, and to effectively build up new drivers for economic development.

Statistics show that the major reform activities have gained positive results.⁴⁴ From the supply side, the value added of the tertiary industry accounted for 52.8 percent of China's GDP in the first three quarters of 2016, 1.6 percentage points higher than that of the previous

35 Available at: <http://unctadstat.unctad.org/CountryProfile/GeneralProfile/en-GB/156/index.html>

36 *ibid.*

37 Available at: http://www.imf.org/external/pubs/ft/weo/2015/02/weodata/weorept.aspx?sy=2010&ey=2017&scsm=1&ssd=1&sort=country&ds=.&br=1&c=924&s=NGDPD%2CNGDPDPC%2CGXWDG_NGDP&grp=0&a=&pr.x=51&pr.y=12

38 Available at: <http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG>

39 Available at: http://unctad.org/en/PublicationsLibrary/tdstat41_en.pdf

40 *ibid.*

41 Available at: http://unctad.org/en/PublicationsLibrary/tdstat41_en.pdf

42 Available at: <https://www.imf.org/external/pubs/ft/wp/2016/wp16106.pdf>

43 *ibid.*

44 Available at: http://www.stats.gov.cn/english/PressRelease/201610/t20161019_1411211.html

year.⁴⁵ This means that China is moving towards a service economy, a phenomenon of post-industrialisation stable development.

From the demand side, final consumption expenditure contributed to 71.0 percent of China's GDP growth in the first three quarters of 2016, 13.3 percentage points higher than that in 2015.⁴⁶ This increase in consumer demand signifies a structural change in China's GDP composition, which means that the sources of economic development in China are further diversified.

Nonetheless, China's economic development is still undergoing a critical period of transformation, with old drivers of growth to be replaced by new ones. The successful implementation of the structural reforms above is crucial to China's economic and social development in the long run.

Social Development

After over two decades of "population explosion" since the founding of the country, China introduced the family planning policy, also known as the "One Child" policy, in the early 1980s. This, together with the improvement of the Chinese people's livelihood, helped China transfer from the previous phase of high-fertility to a new phase of low-fertility, low-mortality, and natural growth. The life expectancy in China has reached 76.34 years in 2015,⁴⁷ and consequently, a rapid aging population is on the horizon.

The number of people aged 65 years old or above has been increasing for 7 consecutive years from 2008 to 2015,⁴⁸ much faster than the growth rate of other age groups. The aging population puts pressure on the government to provide adequate social welfare and improve environmental conditions, in particular to reduce air pollution. This phenomenon further implies a shrink in the relative size of China's workforce, which could result in an increase in the cost of labour, as well as a potential for unemployment.

Nevertheless, China has made huge progress in improving people's standard of living, lifting more than 700 million people out of poverty since its economic reform in the 1980s.⁴⁹ According to the World Bank, the percentage of the Chinese population living below the poverty line of \$1.90 a day (measured by the 2011 Purchasing Power Parity) fell from 66.6 percent in 1990 to 1.9 percent in 2013.⁵⁰

China reached all the United Nations Millennium Development Goals (MDGs) by 2015 and made a major contribution to the achievement of the MDGs globally. Nevertheless, according to China's national poverty standard, there were 56.3 million poor in rural areas in 2015.⁵¹ The 13th FYP aims at lifting all these people out of poverty before the end of 2020.

Access to Markets

China as a member of the World Trade Organisation (WTO)

China became a member of the WTO on 11 December 2001. The admission of China to the WTO was preceded by lengthy negotiations and required significant changes to the Chinese economy. The service sector was considerably liberalised and foreign investment was allowed

⁴⁵ *ibid.*

⁴⁶ Available at: http://www.stats.gov.cn/english/PressRelease/201610/t20161019_1411211.html

⁴⁷ Available at: http://www.stats.gov.cn/tjsj/zxfb/201602/t20160229_1323991.html

⁴⁸ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

⁴⁹ Available at: http://www.gov.cn/zhengce/2016-10/17/content_5120140.htm#1

⁵⁰ Available at: <http://povertydata.worldbank.org/poverty/country/CHN>

⁵¹ Available at: http://www.cpad.gov.cn/art/2016/12/3/art_46_56101.html

and promoted. Restrictions on retail, wholesale, and distribution were gradually removed. Banking, financial services, insurance, and telecommunications industries were also opened up to foreign investment. Furthermore, China made progress in the field of transparency and intellectual property upon which China's accession to WTO was conditional.

- **Market Economy Status (MES)**

Although China experienced a wide range of reforms from the 1980s and thereafter, it was not recognized as a country with MES when it joined the WTO in 2001. Under Section 15 of the Chinese WTO Accession Protocol, China was to be treated as a non-market economy (NME) in anti-dumping proceedings for the first 15 years of its accession to the WTO. Having an NME status means that importing countries could ignore the Chinese prices when determining the market value of goods and calculating the dumping margin. This in turn pushed China to pay higher anti-dumping duties. Consequently, as a country with the highest number of anti-dumping investigations, China has been making efforts to obtain an earlier recognition of MES since 2003.

Presently, 81 countries, including Russia, Brazil, New Zealand, Switzerland and Australia, have recognized China's MES through Memoranda of Understanding or in the form of political declarations. However, certain countries such as the US, those within the European Union (EU), Canada, Japan, Mexico, and India still consider China an NME.

Membership of Main International Organisations and Financial Institutions

China is a member of the United Nations (UN) and a permanent member of the UN Security Council. It is also a member of numerous formal and informal multilateral organisations, including the WTO, Asia-Pacific Economic Cooperation (APEC), BRICS (Brazil, Russia, India, China, and South Africa), Shanghai Cooperation Organisation (SCO), and G20.

China also plays an active role in major international financial institutions, including the World Bank, the IMF, and the AIIB. China is one of the founders of the World Bank, and has developed cooperative relationships with the Bank since it started building up its financial capacity in 1981. The World Bank has made great contributions to the development of China's transportation, industry, energy, agriculture, finance, and environmental protection by providing longer-term loans.⁵²

China is a founder of the IMF. On 30 November 2015, the IMF Executive Board determined that the Chinese CNY was included in the Special Drawing Right (SDR)⁵³ basket. This decision has allowed SDR users to manage transactions in CNY without substantial impediments.⁵⁴ The AIIB is the first international financial institution initiated by China in 2013. Holding 30 percent of AIIB's stake, China serves as a promoter of regional economic integration. China's membership to major international organisations and financial institutions is listed below in a chronological order:

⁵² Available at: <http://www.worldbank.org/en/country/china>

⁵³ The SDR is an international reserve asset created by the IMF in 1969 to supplement its member countries' official reserves. Its value is determined by a basket of 5 currencies: the US dollar, the euro, the CNY (also called Renminbi), the Japanese yen, and the British pound sterling. More information available at: <http://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/14/51/Special-Drawing-Right-SDR>

⁵⁴ Available at: <https://www.imf.org/en/About/Factsheets/Sheets/2016/08/02/19/35/Review-of-the-Special-Drawing-Right-SDR-Currency-Basket>

Table 1.2 Membership to International Organisations and Financial Institutions

Organisation	Date of Accession
International Monetary Fund	1944
United Nations	1946
World Economic Forum	1979
World Bank	1980
World Energy Council	1983
Asian Development Bank	1986
Asia-Pacific Economic Cooperation	1991
Association of Southeast Asian Nations (ASEAN) +1/ ASEAN+3	1991
Greater Mekong Sub region Economic Cooperation	1992
Conference on Interaction and Confidence Building Measures in Asia	1992
Bank for International Settlements	1996
Asia-Europe Meeting	1996
G20	1999
Forum on China-Africa Cooperation	2000
Shanghai Cooperation Organisation	2001
World Trade Organisation	2001
China-Arab States Cooperation Forum	2004
East Asia Summit	2005
BRICS	2006
China-Central and Eastern European Countries Economic and Trade Forum	2011
Asian Infrastructure Investment Bank	2015

International Cooperation in Investment

• Free Trade Agreements (FTAs)

To facilitate international and regional cooperation in investment, China has signed 13 Free Trade Agreements (FTAs), involving 22 countries and regions in Asia, Latin America, Oceania, and Europe. In addition, China has signed trade agreements with the special administrative regions of China, for instance, the Mainland and Hong Kong Closer Economic Partnership Arrangement, the Mainland and Macao Closer Economic Partnership Arrangement, and the Cross-Strait Economic Cooperation Framework Agreement. The FTAs signed by China, as well as those that are under negotiation or being reviewed, are summarised in the Annex 1.

• Bilateral Investment Treaties (BITs)

China has signed Bilateral Investment Treaties (BITs) with 129 countries and economies, including Germany, France, the UK, Japan, South Korea, Australia, and Canada, and is concluding ongoing BIT negotiations with the US.⁵⁵ These BITs cover a wide range of contents, such as the definition of investment, the standard of treatment, the entry of personnel, intellectual property rights, environmental measures, law transparency, regulations and

⁵⁵ Available at: <http://tfs.mofcom.gov.cn/article/Nocategory/201111/20111107819474.shtml>

policies, taxation, prudential measures, disputes settlements, etc. The Chinese BITs provide far-reaching, substantive, and procedural investment protection, and most BITs signed after the late 1990s provide comprehensive investor-state dispute settlement mechanisms for all disputes concerning investment.⁵⁶ A list of China's BITs is presented in the Annex 2 (including those that are terminated).

Main Partners of Trade

In 2016, the top export destinations of China are the US, the EU, Hong Kong, the ASEAN, Japan, and Republic of Korea. The top import origins of China are the EU, the ASEAN, Republic of Korea, Japan, Taiwan (China), and the US.⁵⁷ China has signed FTAs and/or BITs with all of these economies.

Table 1.3 China's Top Merchandise Trade Partners (2016)⁵⁸

Top 6 Export Partners			
Rank	Country	Trade (CNY Billion)	Partner Share (percent)
1	US	2541.5	18.4
2	EU	2236.9	16.2
3	Hong Kong, China	1900.9	13.7
4	ASEAN	1689.4	12.2
5	Japan	852.9	6.2
6	Korea, Rep.	618.5	4.5

Top 6 Import Partners			
Rank	Country	Trade (CNY Billion)	Partner Share (percent)
1	EU	1374.7	13.1
2	ASEAN	1297.8	12.4
3	Korea, Rep.	1049.6	10.0
4	Japan	962.6	9.2
5	Taiwan, China	920.3	8.8
6	US	888.7	8.5

⁵⁶ Available at: <http://www.energycharter.org/what-we-do/publications/report-on-the-compatibility-of-chinese-laws-and-regulations-with-the-energy-charter-treaty/>

⁵⁷ Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

⁵⁸ *ibid.*

GENERAL ENERGY POLICY

General Energy Policy

Energy plays an essential role in supporting China's economic and social development. Over the past decades, China's energy supply capacity has increased significantly and its energy mix continues to improve. This rapid industrial growth has led to a surge in total energy demand for both domestic and overseas resources, which then gives rise to security and environmental challenges.

Nowadays, China is facing a structural change in its energy sector and observing major adjustments to its consumption patterns. Until 2014, coal was largely responsible for the gradual industrial and economic growth of China. Between 2000 and 2016, total primary energy demand had been growing by 6 percent per annum, making China the largest energy consumer in the world. Oil was also responsible for this rapid energy demand accounting for 18 percent of the total energy mix of China in 2016.⁵⁹

However, over the last decade, China has observed a dramatic shift in its policy changes, which aimed at lowering total final consumption, switching from coal and oil to natural gas and renewable energy, and introducing large energy efficiency programmes across all industrial sub-sectors. The significant growth of the renewables in China has had the largest impact on the power sector and new investments respectively.⁶⁰

Energy Supply and Demand

Supply

China's total primary energy supply (TPES)⁶¹ has been growing steadily for the past 15 years, rising from 1,442.3 Mtce in 2000 to 4299.6 Mtce in 2015.⁶² Coal is the dominant source of energy in China, contributing to 64 percent of the TPES.⁶³ In 2015, fossil fuels accounted for 88 percent of the country's TPES (See Graph 2.1). Meanwhile, the share of non-fossil fuels in the TPES has also increased significantly, from 102.8 Mtce in 2000 to 521.1 Mtce in 2015.⁶⁴ In 2015, hydro contributed to 20 percent of China's electricity power generation, while wind, solar, and other renewable energy accounted for 5 percent of the total.⁶⁵

⁵⁹ See *World Energy Outlook 2017*, International Energy Agency.

⁶⁰ *Ibid.*

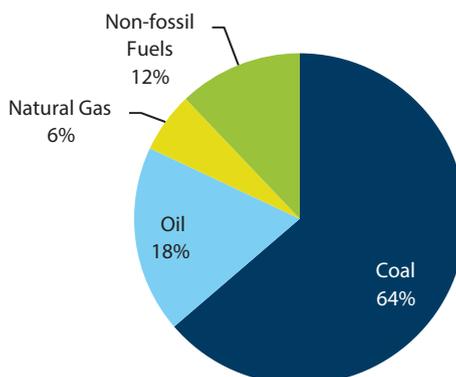
⁶¹ TPES is equal to a country's energy production plus energy imports, minus energy exports, minus international bunkers, then plus or minus stock changes. Primary energy refers to any energy form that is found in nature without any conversion processes. The definition of TPES is from: <https://data.oecd.org/energy/primary-energy-supply.htm>

⁶² Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

⁶³ *Ibid.*

⁶⁴ *Ibid.*

⁶⁵ Available at: http://www.ndrc.gov.cn/zcfb/zcfbtz/201612/t20161216_830264.html

Graph 2.1 Share of China's TPES (2015)⁶⁶

China's energy production has been significantly enhanced since 2000. The country's output of primary energy jumped from 1,385.7 Mtce in 2000 to 3,614.8 Mtce in 2015, ranking the first in the world.⁶⁷ Meanwhile, China's structure of energy production has also improved. China observed a decline in its coal production first in 2014, and the amount has been continuing to decrease since then.⁶⁸

In 2016, China's coal production dropped by 9 percent, the highest rate since 2014.⁶⁹ In addition, from 2000 to 2015, the percentage of crude oil production in the TPES declined by half, from 16.8 percent to 8.5 percent, while the production share of primary electricity and alternative energy doubled, from 7.7 percent to 14.5 percent.⁷⁰

China's energy import has also been increasing, rising from 143.3 Mtce in 2000 to 774.5 Mtce in 2015.⁷¹ In 2013, China replaced the US as the world's largest net importer of petroleum and other liquid fuels.⁷² China's energy exports, on the other hand, has been decreasing in general, from 117 Mtce in 2002 to 97.8 Mtce 2015, albeit some fluctuations.⁷³

Demand

China remained the world's largest energy consumer in 2016, accounting for 23 percent of the global energy consumption and contributing 27 percent to the global energy demand growth.⁷⁴ China's primary energy consumption (PEC)⁷⁵ reached 4299.1 Mtce in 2015, up from

⁶⁶ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

⁶⁷ *ibid.*

⁶⁸ *ibid.*

⁶⁹ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01> and http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

⁷⁰ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

⁷¹ *ibid.*

⁷² *ibid.*

⁷³ *ibid.*

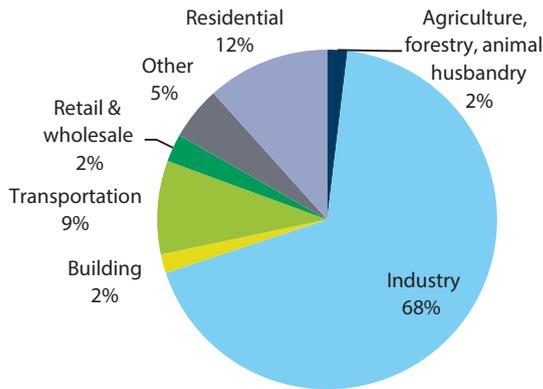
⁷⁴ Available at: <http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/country-and-regional-insights/china.html>

⁷⁵ PEC measures the total energy demand of a country. It covers consumption of the energy sector, losses during the transformation and distribution of energy, and the final consumption by end-users. PEC excludes energy carriers used for non-energy purposes. More information available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Primary_energy_consumption

1469.6 Mtce in 2000.⁷⁶ Although China has been the world's largest growth market for energy for the past 15 consecutive years,⁷⁷ the period of 2015-2016 marks China's lowest rate of PEC growth (1.3 percent) since 1997.⁷⁸ This slowdown of China's PEC growth partly reflects China's deviation away from its most energy-intensive sectors, such as iron, steel, and cement, and shows a rebalancing of the country toward a more consumer and service-oriented economy.⁷⁹

By sector, industry is the largest consumer of energy, taking up about 68 percent of the PEC in 2015.⁸⁰ Residential use and transportation follow as the second and the third, accounting for 11.7 percent and 8.9 percent of China's PEC respectively. Below is a chart showing the share of China's PEC by sector in 2015:

Graph 2.2 Share of China's Primary Energy Consumption (2015)⁸¹



By fuel, China's 2015-2016 consumption growth was led by natural gas and oil—the increase rates of which were 7.7 percent and 2.7 percent respectively - which show China's structural improvement in energy consumption. China's coal use during the same period declined at a rate of 1.6 percent.⁸² This decrease in coal consumption, although relatively small, signifies that China is now moving towards a coal consumption plateau. This indicates that China's coal consumption is likely to remain at a more stable level in the coming years.

In addition, China has observed a rise in the demand for renewable energy. In 2016, China overtook the US and became the largest consumer of renewables in power. China's renewables consumption grew by 33.4 percent, consuming 86.1 million tonnes of oil equivalent (Mtoe). China's solar consumption increased by 71.5 percent, wind consumption grew by 29.4 percent and geothermal and biomass rose by 21.4 percent.⁸³

⁷⁶ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

⁷⁷ Available at: <http://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>

⁷⁸ *ibid.*

⁷⁹ *ibid.*

⁸⁰ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

⁸¹ *ibid.*

⁸² Available at: <http://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>

⁸³ Available at: <http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/country-and-regional-insights/china.html> and <http://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-renewable-energy.pdf>

Structure of the Energy Sector

Energy Authorities

The Chinese central government holds absolute authority over energy matters. It plays a leading role in forming energy strategies, implementing related policies, as well as supervising the energy-sector operations through different administrative authorities.

There are two coordinating bodies at the top of China's administrative system, both of which have an important impact on major energy issues. First, the Leading Group for Financial and Economic Affairs is an inner group of the Central Committee of the CPC, led by the Chinese President, who is also the CPC General Secretary. It is considered the highest body responsible for leading and coordinating discussions on issues related to the economy within the CPC Central Committee.

Second, the National Energy Commission (NEC) consists of the Premier, one Vice Premier, and 19 Ministers or Vice Ministers of the State Council. Under the leadership of the Premier, the Commission coordinates the overall energy policies for China, which include drafting energy development strategies, evaluating energy security, as well as facilitating international cooperation on climate change, carbon reduction, and energy efficiency. The NEC receives guidance from the Leading Group in the formation of these energy strategies. The policies decided by the NEC are then implemented by the NEA.⁸⁴

Many other government bodies are also actively involved in energy administration through responsibilities assigned by the State Council. Below is a list of government departments that are involved for energy issues in China:

⁸⁴ Available at: http://english.gov.cn/policies/latest_releases/2016/06/24/content_281475378900506.htm

Table 2.1 China's Government Departments Responsible for Energy Issues ⁸⁵

Ministries	Responsibilities
NEA	<ul style="list-style-type: none"> • Playing a leading role in the energy sector supervision and management • Implementing energy development plans and industrial policies • Approving and reviewing fixed asset investment in energy sector, which includes both capital inflows and outflows • Taking the lead in launching international energy cooperation • Promoting institutional reform in the energy sector • Managing energy conservation and the utilisation of resources in the energy sector
NDRC	<ul style="list-style-type: none"> • Regulating fixed asset investment for all sectors, both domestic and overseas • Regulating energy prices and managing energy emergent dispatch • Formulating policies on climate issues and energy efficiency
Ministry of Industry and Information Technology (MIIT)	<ul style="list-style-type: none"> • Formulating and implementing industrial development plans and industrial policies for energy-related sectors, including electric vehicles, petrochemicals, and coal chemicals • Guiding energy conservation and energy intensity reduction in industrial sectors
Ministry of Science and Technology (MoST)	<ul style="list-style-type: none"> • Promoting energy technology innovation
Ministry of Land and Resources (MoLR)	<ul style="list-style-type: none"> • Overseeing mineral appraisals and utilisation plans; • Regulating the registration and assignment of exploration and production licenses
Ministry of Finance (MoF)	<ul style="list-style-type: none"> • Allocating fuel subsidies and renewable energy subsidies
Ministry of Agriculture (MoA)	<ul style="list-style-type: none"> • Guiding the development of renewables in rural areas
Ministry of Housing & Urban & Rural Development (MoHURD)	<ul style="list-style-type: none"> • Supervising building-efficiency issues
Ministry of Commerce (MOFCOM)	<ul style="list-style-type: none"> • Imposing quotas and issuing licenses for energy imports and exports • Engaging in the regulation of foreign investment in China and Chinese investments overseas
Ministry of Water Resources (MoWR)	<ul style="list-style-type: none"> • Overseeing safety issues related to building dams • Guiding hydropower development in rural areas
State Asset Supervisory and Administration Commission (SASAC)	<ul style="list-style-type: none"> • Supervising assets and appointing top executives of energy state-owned enterprises (SOEs)
State Administration of Coal Mine Safety (SACMS)	<ul style="list-style-type: none"> • Overseeing coal mine safety issues, as well as other coal mining related policies and standards
State Oceanic Administration (SOA)	<ul style="list-style-type: none"> • Engaging in the regulating offshore oil and gas development
National Nuclear Safety Administration (NNSA)	<ul style="list-style-type: none"> • In charge of nuclear safety issues in China
State Administration of Science, Technology and Industry for National Defence (SASTIND)	<ul style="list-style-type: none"> • Formulating policies related to civil nuclear utilisation; • Leading intergovernmental and international atomic energy cooperation in the name of China Atomic Energy Authority.
National Bureau of Statistics (NBS)	<ul style="list-style-type: none"> • Collecting and processing energy data

⁸⁵ Available at: <http://www.gov.cn/>

Energy Enterprises

The key players in China's energy market are SOEs, which have a vital role for the China's economy and its energy sector. More than 20 SOEs dominate coal mining and transportation, oil and gas exploration and development, pipeline operations, power generation and grid operations, large-scale energy equipment manufacturing, as well as the exploitation of renewable energy.⁸⁶ In the fields of nuclear power, power grid, and oil and gas, it is mandatory for foreign investors to partner with central-level SOEs.⁸⁷

Despite the dominating role of the SOEs, China has been taking measures to attract foreign investment in the energy sector by supporting collaboration between Chinese enterprises and foreign entities. For instance, a few nuclear giants have been involved in China's nuclear development. ConocoPhillips has been cooperating with China National Offshore Oil Corporation (CNOOC) in offshore oil development while companies such as BP, Shell, and Total have already established certain oil sales networks in China.

Efforts have also been made to increase the participation of domestic private investment in the energy sector. Since the issuance of "Several Opinions on Encouraging and Guiding the Healthy Development of Private Investment" by the State Council in 2010⁸⁸, the inflow of private capital started to play a more active role, especially in the field of renewable energy. Some of the private renewable energy equipment manufacturers, like Sinovel and Goldwind, have even become world-class suppliers.

Other Stakeholders in the Energy Sector

In addition to energy authorities and companies, the energy industry associations are also important players in the sector. Most of the industry associations evolved from previous administrative departments, have certain administrative power, and play an essential role in the governance of the energy sector. Some of the most prominent associations include China National Coal Association (CNCA), China Electricity Council (CEC), and China Petroleum and Chemical Industry Federation. These industry associations have expertise in market analysis and prediction, industry development research, as well as coordination among their member enterprises in response to market volatility.

China's Energy Strategy by 2030

Facing the growing demand of energy and the need to form a market-oriented economy, China has mapped out an energy strategy, from both the national and the international dimensions, to promote the healthy, secure, and sustainable development of energy by 2020.

National Energy Strategy

China's national energy strategy has three important pillars: the "Four Revolutions and One Cooperation" Vision, the 13th FYP for Energy Development (2016-2020) and Energy Supply and Consumption Revolution Strategy (2016-2030).

- **The "Four Revolutions and One Cooperation" Vision**

In June 2014, the Chinese President Xi Jinping chaired the 6th meeting of the Leading Group for Financial and Economic Affairs, where he announced the "Four Revolutions and One Cooperation" Vision for a comprehensive energy revolution.⁸⁹

⁸⁶ Available at: <http://www.sasac.gov.cn/n86114/n86137/index.html>

⁸⁷ Available at: http://www.ndrc.gov.cn/zcfb/zcfbl/201706/t20170628_852857.html

⁸⁸ Available at: http://www.gov.cn/zwqk/2010-05/13/content_1605218.htm

⁸⁹ Available at: <http://cpc.people.com.cn/n/2014/0614/c64094-25147885.html>

The “Four Revolutions” focus on the areas of demand, production, technology, and institutional governance. First, China is dedicated to facilitating energy consumption revolutions, namely inhibiting unreasonable energy consumption, implementing energy conservation policies, as well as forming an energy-conservation oriented society.

Second, China has been devoting itself to promoting energy-supply revolutions. Based on the secured and diversified domestic energy supply, the government takes a step further to promote the clean and efficient utilisation of coal, develop non-coal energy, and strengthen the energy transmission and distribution network, and storage facilities simultaneously.

Third, China aims at promoting energy technology revolutions by moving towards a green and low-carbon economy. By encouraging technological, industrial, and business model innovation, China aims at making innovation a new growth engine for its industrial upgrading.

Fourth, China intends to promote the energy-system revolutions, which include commodifying energy products, enhancing effective competition, following the mechanism of market economy, changing the government’s energy regulation pattern, and improving the energy law system.

The “One Cooperation” part of the Vision, on the other hand, reflects China’s commitment to “strengthen international cooperation comprehensively and realise energy security under open conditions”⁹⁰ This vision shows China’s growing engagement in global energy governance, gradually shifting the country’s role “from an outsider to an insider” and “from a follower to an influencer” in global energy governance.⁹¹ The “Four Revolutions and One Cooperation” vision has now become the new slogan and guiding ideology of China’s energy development.

• The 13th FYP for Energy Development

The 13th FYP for Energy Development (2016-2020) follows the strategic thinking of the “Four Revolutions and One Cooperation” Vision, aiming at building a modern energy system that is clean, low-carbon, secure, and efficient.⁹² In the plan, more attention is paid to development quality, structural adjustment, market rules, as well as mechanism innovation.

In the coal industry, the focus is on advancing structural reforms and emphasizing the role of market on resource allocation, by reducing coal’s share in the PEC from 62 percent to 58 percent. The goals of the oil industry are to enhance energy exploration and development and to facilitate the construction of petroleum storage capacity, so as to ensure secured oil supply.

The 13th FYP also intends to increase both the amount and the share of natural gas in the country’s PEC, and gradually make natural gas the country’s main energy source. The Plan guides the upstream resources exploration, the midstream infrastructure construction, and the downstream utilisation of natural gas. In recent years, a trend of deregulation has been witnessed, along with China’s strategy of vigorously developing unconventional gas.

For the electricity industry, efforts will be made to optimise the energy consumption structure, push forward power grid development, and promote the advancement of a clean safe electricity system. The 13th FYP will also boost the sub-sector of new and renewable energy by enhancing the share of hydro, wind, and solar powers in China’s PEC, and by replacing

90 Available at: <http://cpc.people.com.cn/n/2014/0614/c64094-25147885.html> and https://www.iea.org/publications/freepublications/publication/PartnerCountrySeries_ChinasEngagementinGlobalEnergyGovernance_Englishversion.pdf

91 Available at: https://www.iea.org/publications/freepublications/publication/PartnerCountrySeries_ChinasEngagementinGlobalEnergyGovernance_Englishversion.pdf

92 Available at: http://www.ndrc.gov.cn/zcfb/zcfbtz/201701/t20170117_835278.html

traditional energies with renewable energies in suitable industries.

Finally, China underlines the importance of technological innovation in the field of energy. The country has been trying to strengthen basic scientific research and frontier technological research in the energy field to enhance its innovation capabilities. Below is a table comparing China's 2015 situation and the country's main energy development targets from 2016-2020:

China's Energy Supply and Consumption Revolution Strategy (2016-2030)

Table 2.2 China's Main Energy Development Targets by 2020 ⁹³

	Indicator	2015	2020 (13 th FYP)
Total	Annual PEC	4.3 Gtce	With a cap of 5 Gtce
	Energy consumption per unit of GDP	Fall by 18 percent comparing to the 2010 level	Fall by 15 percent comparing to the 2015 level
	Energy self-sufficiency	84 percent	Over 80 percent
Coal	Annual coal consumption	4 Gt	Below 4.1 Gt
	Share of coal in the PEC	64 percent	Below 58 percent
	Elimination of excessive and outdated production capacity of coal within 5 years	550 million tonnes per annum	800 million tonnes per annum
	Increasing of Advanced production capacity within 5 years	No data available	500 million tonnes per annum
Oil	Crude oil production	214 million tonnes	Maintain at a level of more than 200 million tonnes
Gas	Natural gas production	135 billion tonnes	216 billion tonnes
	Share of natural gas in the PEC	5.9 percent	Try to reach 10 percent
Power	Total installed capacity	1530 GW	2000 GW
	Share of non-fossil fuels in PEC	12 percent	Rise to 15 percent
	Share of non-fossil energy installed capacity in total	35 percent	39 percent
Renewable energy and other	Installed capacity of hydro-power	320GW	380 GW
	Grid-connected wind power capacity	129GW	210 GW
	Installed capacity of solar power	43GW	110 GW
	Installed capacity of nuclear power	27GW	58 GW

China's Energy Supply and Consumption Revolution Strategy (2016-2030) includes comprehensive policies and measures to promote the structural reform of China's energy market beyond the 13th FYP for Energy Development.

⁹³ Available at: http://www.ndrc.gov.cn/zcfb/zcfbtz/201701/t20170117_835278.html

The document outlines the main priorities:

- Controlling overall energy consumption;
- Changing structure of energy consumption;
- Promoting energy saving and emission reduction;
- Promoting urban and rural electrification.
- Optimizing clean and efficient production and utilisation of coal;
- Providing clean energy to match the majority of new demand growth;
- Promoting efficient supply-side management;
- Optimizing energy production system;
- Building a competitive energy market;
- Establishing a price mechanisms based on market;
- Optimizing the legal system governing energy,
- Promoting the energy efficient technologies;
- Promoting R&D of clean and low-carbon technology;
- Developing smart energy system technologies;
- Improving research capacity for energy technologies.

International Dimension of China's Energy Strategy

With accelerated globalisation, China has established closer ties with the rest of the world. China has established both bilateral and multinational cooperative mechanisms with various energy-influential countries and organisations, and is contributing more to the global energy governance.

• International Energy Cooperation Mechanisms

Up until now, China has established 42 bilateral energy cooperation mechanisms with nearly 30 partner countries, most of which are large in size and/or rich in energy resource.⁹⁴ These bilateral mechanisms either focus on facilitating the exchange of information on energy and mineral resource policies, or on promoting trade and investment to enhance cooperation.

A summary of China's major achievement in construction of bilateral energy cooperation in 2016 is provided below:

⁹⁴ See *China's Engagement in Global Energy Governance, IEA partner country series.*

Table 2.3 China's Bilateral and Inter-regional Energy Cooperation Mechanisms Established in 2016⁹⁵

Country/Region	Remark
China-Denmark Memorandum of Understanding (MoU)	• Focuses on the establishment of the partnership between China and Denmark on thermal power flexibility
China-Saudi Arabia MoU	• Underlines renewable energy cooperation and high-temperature gas-cooled reactor project
China-Iran MoU	• Emphasizes the short and long-term cooperation in oil and gas
China-US MoU	• Supports the China-US energy cooperation projects
China-Turkey MoU	• Focuses on the cooperation in nuclear energy, civilian nuclear energy, and new energy
Joint communiqué between China and the Arabia National Union	• Consensuses on the fields of oil, natural gas, electric power, new energy, and the peaceful use of nuclear energy
China-Russia Joint Statement	• Aims at strengthening the cooperation in the peaceful utilisation of nuclear energy
China-EU Roadmap on Energy Cooperation	• Promotes low-carbon develop, protect the environment, address climate-change issues, and boost renewable energy development

Apart from strengthening bilateral ties, China is also taking a more proactive approach focused on increasing multilateral cooperation.⁹⁶ China now recognizes global energy governance not only as a means to address energy challenges, but also as a mutually beneficial mechanism.

Consequently, China has gained membership or become an important participant in many international energy organisations, such as the International Energy Forum, the International Atomic Energy Agency, the IEA, and the International Energy Charter. It also plays an active role in addressing energy issues on the platform of major multilateral frameworks, such as G20, APEC, BRICS, and SCO. A list of cooperation between China and international energy organisation and comprehensive multilateral frameworks are provided in Annex 3 and 4.

In addition, China's "Belt and Road Initiative" reflects the country's enhanced inter-regional cooperation in energy resource exploitation and energy investment. Connecting the Asian, European, and African continents, this Initiative aims at enhancing energy infrastructure connectivity, promoting energy trade and investment, and developing new energy technology.

Since the establishment of the Initiative, China has announced a series of major energy infrastructure projects. For instance, the 10 power projects under the China-Pakistan Economic Corridor totalled nearly 7.3 GW by the end of 2016, which effectively helped Pakistan meet its short-term power demand.⁹⁷ The Yanbu Refinery of Saudi Aramco and Sinopec went into operation in early 2016, with a potential processing capacity of 20 million tonnes per year.⁹⁸ The China-Russia Yamal Liquefied Natural Gas (LNG) project was initiated in 2016, and is expected

⁹⁵ See *Annual Report on China's Energy Development 2016, Electric Power Planning & Engineering Institute*

⁹⁶ Available at: https://www.iea.org/publications/freepublications/publication/PartnerCountrySeries_ChinasEngagementinGlobalEnergyGovernance_Englishversion.pdf

⁹⁷ See *Annual Report on China's Energy Development 2016, Electric Power Planning & Engineering Institute*

⁹⁸ *ibid.*

to achieve a LNG production capacity of 16.5 million tonnes.⁹⁹ By engaging in both physical and technological cooperation of energy infrastructure development along the Belt and Road, the Initiative is expected to provide China and the participating countries with affordable access to more energy resources in a mutually beneficial manner.¹⁰⁰

• The Sustainable Development of Energy

As its energy imports and consumption increase rapidly, China has been actively engaging in sustainable development-related international cooperation, and adjusting its national development plans accordingly. China's commitment in the Paris Agreement and the G20 shows the country's growing willingness to take more international responsibility to address climate-change issues and promote global sustainable development.

To facilitate the adoption of the Paris Agreement, China issued the document "Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions" (INDCs) in June 2015, setting four major targets that demonstrate the country's determination to cope with climate change. Below is a table summarizing China's INDCs:

Table 2.4 China's INDCs to the Paris Agreement¹⁰¹

• To lower carbon dioxide emissions per unit GDP by 60 percent to 65 percent from the 2005 levels by 2030
• To achieve the peaking of carbon dioxide emissions around 2030 and make best efforts to peak earlier
• To increase the share of non-fossil fuels in the PEC to around 20 percent by 2030
• To increase the forest stock volume by around 4.5 bcm by 2030 from the 2005 level

China's 13th FYP can be seen as the first stage of fulfilling the country's INDCs by 2030, as it aims to (1) reduce carbon dioxide emission intensity by 40 to 45 percent compared to the 2005 level and (2) to increase the share of non-fossil fuels in the primary energy mix to 15 percent by 2020. China's incorporation of the INDCs into its FYP has consequently enhanced its role as a constructive global partner in facilitating climate change-related international negotiations.

Other important sustainable development related multilateral framework in which China actively participates is the G20. In June 2016, the NEA hosted the G20 Energy Ministerial Meeting in Beijing, with the theme of "Shaping a Low-carbon, Smart and Sharing Energy Future." The Meeting called for a more inclusive global energy architecture that features reciprocity, openness, inclusiveness, fairness, and order.¹⁰²

⁹⁹ *ibid.*

¹⁰⁰ Available at: http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html

¹⁰¹ Available at: <http://www4.unfccc.int/ndcregistry/PublishedDocuments/China%20First/China%27s%20First%20NDC%20Submission.pdf>

¹⁰² Available at: http://news.xinhuanet.com/fortune/2016-06/30/c_129105000.htm

The Meeting adopted four documents, the highlights of which are listed below:

Table 2.5 Major Documents Adopted at the G20 Energy Ministerial Meeting in China ¹⁰³

Document	Highlights
G20 Energy Ministerial Meeting Beijing Communiqué	<ul style="list-style-type: none"> • Emphasizes the essential roles of the G20 members in addressing the common challenges to the global energy development
Enhancing Energy Access in Asia and the Pacific: Key Challenges and G20 Voluntary Collaboration Action Plan	<ul style="list-style-type: none"> • Calls for voluntary collaboration on energy access by expanding the focus beyond Sub-Saharan Africa and include the Asia-Pacific region
G20 Voluntary Collaboration Action Plan on Renewable Energy	<ul style="list-style-type: none"> • Encourages members to develop renewable energy strategies and action plans to scale up renewable energy investment • Aims at increasing the share of renewable energy in the global energy mix
G20 Energy Efficiency Leading Programme	<ul style="list-style-type: none"> • Expands the areas of voluntary international collaboration from 6 to 11

¹⁰³ See Annual Report on China's Energy Development 2016, *Electric Power Planning & Engineering Institute*

MARKET STRUCTURE OF THE ENERGY SECTOR

Market Structure of the Energy Sector

Coal

General Information

Coal is the primary energy source for China. Between 2002 and 2012, both coal production and consumption surged, as China prioritized to enhance coal supply capacity and reduce the energy gap that restricted the country's economic development. However, since the past few years China's coal industry has been facing structural problems such as low productivity, excessive and outdated capacity, market fragmentation, and imbalanced development.

To address these challenges, China is now shifting its economic development model toward a "New Normal" starting 2014, which features a slowdown in the growth of energy demand, an emphasis on ecological issues, and an acceleration of clean energy development. The 13th FYP of the coal sector is set according to this new growth model. It puts forward the construction of a safe, efficient, green, and modern coal industry as a key priority, so that the Chinese economy can achieve its historical leap from being "large" to being "strong."

To improve the environmental conditions and reduce the old and inefficient overcapacity of electricity generated from coal, China has recently started issuing several regulations on the coal industry. The particular aim is not only to phase out inefficient coal-fired generation plants but also to use clean coal technologies in the power generation.

Supply and Demand

China produced 3.41 billion tons of coal in 2016, 9 percent lower than the previous year. With coal output decreasing by 2.5 and 3.3 percent in 2014 and 2015 respectively, 2016 marks the third constructive year of decline in coal production.¹⁰⁴ This fall in production is partly driven by the continuing decline in international coal prices since 2012,¹⁰⁵ which made coal import a more favourable option than coal production in China. As a result, China's coal import has been increasing in general since then, despite some fluctuations. In 2016, particularly, China imported 260 million tons of coal, 25.2 percent higher than in 2015.¹⁰⁶

China's coal consumption has also been declining. The country consumed 3.78 billion tonnes of coal in 2016, 4.7 percent lower than that in 2015, which marks the third year of decrease in coal consumption.¹⁰⁷ Reasons for this decline include (but are not restricted to) three aspects: first, with slower but higher-quality economic development, the demand for traditional energy has been decreasing. Second, alternative energy has been playing a more important role in power generation. For instance, there has been a switch from coal to gas in the energy-intensive industrial sector and the residential sector, as the government is implementing policies to reduce air pollution.¹⁰⁸ Third, China has made progress in enhancing its energy efficiency, which means that less coal is demanded than before to generate the same amount of power.

Despite this increasing slowdown in coal production and consumption, China remains the largest user of coal, and is expected to contribute to half of the global coal demand in the

¹⁰⁴ Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html

¹⁰⁵ Available at: <http://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2016/bp-statistical-review-of-world-energy-2016-coal.pdf>

¹⁰⁶ Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html

¹⁰⁷ See *Annual Report on China's Energy Development 2016*, Electric Power Planning & Engineering Institute

¹⁰⁸ Available at: <https://www.iea.org/newsroom/news/2017/march/iea-finds-co2-emissions-flat-for-third-straight-year-even-as-global-economy-grew.html>

coming 5 years.¹⁰⁹ To promote the sustainable development of the coal industry, it is crucial for China to conduct effective market reforms and boost technology innovation.

Regulatory and Legal Framework

Different governmental institutions work together to govern China's coal industry. The Department of Coal under the NEA is responsible for managing the coal industry, formulating coal development plans and policies, and ensuring the implementation of these policies. The SACMS oversees coal mine safety issues, as well as other coal mining related technical standards. Additionally, the CNCA, a semi-official organisation, bridges coal enterprises with the government and presents industry concerns and suggestions to the regulators.

Compared to other primary energy sources, China has a relatively comprehensive set of laws and regulations for the coal industry. A summary of coal legislations is provided below:

Table 3.1 China's Coal-related Legislations

Legislation	Function
Law of Coal	<ul style="list-style-type: none"> • It is one of the earliest-introduced energy law in China • The Law ensures the rational usage, development, and protection of coal resources, the standardisation of coal production, and the marketing of coal
Mineral Resources Law ¹¹⁰	<ul style="list-style-type: none"> • This law manages the development of mineral resources, including coal • It regulates the registration and assignment of exploration and production licenses
Law of Mine Safety ¹¹¹	<ul style="list-style-type: none"> • The law ensures the safety of mine production, prevent mine accidents, and protects the safety of mine workers
Coal Industry Guidance	<ul style="list-style-type: none"> • Published by the NEA on behalf of the NDRC, the Guidance governs the utilisation of coal, the allocation of social resources, the decision making of major projects, as well as the arrangements for government investment

Pricing

Before 2012, the prices of coal in China were formulated based on a two-track pricing mechanism. The price of "key thermal coal contracts," namely those used for core coal-fired power stations (about half of the total consumption), were regulated by the government. The prices for all the remaining types of coal, in contrast, were subject to market supply and demand. While this two-track coal pricing mechanism guaranteed affordable prices to the core coal-fired power plants, it also led to the situation that different prices existed for different customers in the same market.

This, in turn, resulted in market imbalance and inefficient allocation of resources. Consequently, in 2012, the State Council released the "Opinions on Deepening the Market-oriented Reform of Thermal Coal Pricing,"¹¹² which ended this two-tracks pricing mechanism and let supply and demand play an actively role in deciding the prices of all types of coal. This policy document also set the task of establishing national and regional coal trading centers, which further liberalized China's coal market.

¹⁰⁹ Available at: <https://www.iaea.org/Textbase/npsum/MTCMR2016SUM.pdf>

¹¹⁰ Available at: http://www.npc.gov.cn/wxzl/wxzl/2000-12/06/content_4467.htm

¹¹¹ Available at: http://www.npc.gov.cn/wxzl/wxzl/2000-12/05/content_4574.htm

¹¹² Available at: http://www.gov.cn/jwqk/2012-12/25/content_2298187.htm

Market Structure

Coal has the highest degree of liberalisation within China's energy sector. In 2015, the top 8 coal enterprises accounted for less than 35 percent of the total national production, while private companies took up a large share of total production.¹¹³ A significant number of these private coal companies possess outdated capacity, use inferior production technology, and lack company management mechanisms. As a result, they occupy large market resources but produce a relatively small amount of coal. For example, in 2016, there were about 6,500 small coal mines in China which had an annual output of less than 0.3 million tonnes.¹¹⁴

To address these issues, China's 13th FYP aims at improving the market structure of the coal industry by closing down small coal mines with outdated capacity and facilitating technology upgrade in the remaining ones. China also intends to group small coal mines and build large and modern coal bases to exploit the economies of scale in coal production.

Security of Supply

Coal is China's most self-sufficient primary energy. The country's coal production accounted for more than 60 percent of the national total energy production in 2015, higher than all the remaining energy resources combined.¹¹⁵ Additionally, China discovered 230 billion tonnes of identified coal resources between 2010 and 2015.

This relative abundance of coal resources contributes to enhancing the security of coal supply in China. Although China has observed an upward trend in its coal import between 2012 and 2016, the import accounts for only 5 percent of the country's total supply.¹¹⁶ In China, domestic production is still the dominating resource of coal supply, and this situation is expected to remain the same in the future.

Moreover, China has enhanced its accessibility to coal. The country has improved its railway network by establishing North-South and West-East coal transportation channels, due to which coal can now be distributed more efficiently throughout the country.

This self-sufficiency - the abundance of and accessibility to coal resources - has made coal the cornerstone of China's energy security. Therefore, the main concern of China's coal industry is not security, but the need to upgrade technology, increase efficiency, and better manage the coal resources that it possesses.

Gas

General Information

China considers natural gas as a high-efficiency and clean source of energy. In fact, according to the 13th FYP, natural gas is expected to contribute to 10 percent of the country's PEC by 2020.¹¹⁷

To achieve this ambitious plan, there is already a certain basis of resources and infrastructure layout. For instance, according to the new round (2007-2014) of the National Oil and Gas Resources Dynamic Evaluation carried out by the MoLR,¹¹⁸ China's reserves of conventional natural gas equal 68 trillion cubic meters at the end of 2014, 33 trillion cubic meters more than

113 Available at: <http://www.cwestc.com/newshtml/2016-1-29/399757.shtml>

114 Available at: http://www.ndrc.gov.cn/zcfb/zcfbtz/201612/t20161230_833687.html

115 Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

116 *ibid.*

117 Available at: http://www.ndrc.gov.cn/zcfb/zcfbghwb/201701/t20170119_835567.html

118 Available at: http://www.mlir.gov.cn/xwdt/jrxw/201505/t20150507_1349902.htm

that in 2007, which shows that the country has great potential for natural gas exploration. In terms of infrastructure development, China has already constructed four main channels for gas import. These are the northwest channel for central Asian gas, the southwest channel for gas crossing Myanmar, the northeast channel for Russian gas (under construction), and the LNG terminals along the east coast.

The exploration and development of unconventional natural gas has also made significant progress. The newly proven reserves of shale gas and coalbed methane (CBM), discovered between 2011 and 2015, equalled 544 and 351 bcm respectively. In addition, various unconventional blocks achieved commercial development, with a total output of nearly 25 bcm in 2015.¹¹⁹ Shale gas production soared by 68 percent from 2015 to 2016, and CBM increased more than 13 percent within the same period.¹²⁰

Supply and Demand

China's TPES of natural gas equalled 209.2 bcm in 2016, 16.0 bcm higher than that in 2015.¹²¹ The country's natural gas production equalled 136.9 bcm in 2016, with an increase of 1.7 percent from the previous year.¹²² Geographically, Shanxi, Sichuan, and Xinjiang are the main provinces for natural gas production, with an output of 41.2, 29.7, and 29.1 bcm respectively.¹²³ These regions collectively account for 73.1 percent of the national gas output.

Despite the increase in natural gas production, China also imported 72.3 bcm of natural gas in 2016, making it the world's fourth largest gas importer.¹²⁴ Of the total natural gas imports, 38.0 bcm were pipeline imports,¹²⁵ mainly from Central Asia and Myanmar. There is yet another phase of the Central Asia gas pipeline under construction, which means that gas import from this region will continue to increase.

In 2014, China signed a deal to import large volumes of gas from eastern Russia. The import is expected to start in 2018, with an expected annual volume of 38 bcm in the coming 30 years.¹²⁶ The main reasons for this increasing reliance on imported gas are two-fold: first, China's consumption is expected to grow continuously in the near future; second, China hopes to improve its energy mix by importing more gas to replace its domestic coal consumption.

From the consumption side, China's natural gas utilisation increased by 8 percent to 208.7 bcm in 2016.¹²⁷ The natural gas used in power generation grew the fastest by 13 percent; city gas consumption grew by about 4 percent; the gas used by the industrial sector was stable.¹²⁸ Although the consumption was more than 2015, the growth rate was much lower than the average two-digit growth observed in the previous ten years.¹²⁹ Therefore, despite a supply surplus, the level of consumption remains low due to the sparse pipeline networks, the shortage of gas storage facilities, the high cost of transmission and distribution, and the generally high prices of gas.

119 Available at: <http://www.sdpc.gov.cn/zcfb/zcfbghwb/201701/W020170119368974618068.pdf>

120 See *Annual Report on China's Energy Development 2016, Electric Power Planning & Engineering Institute*

121 Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html and <http://data.stats.gov.cn/easyquery.htm?cn=C01>

122 This figure includes shale gas and coalbed methane. Please see: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html

123 Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html

124 Available at: <https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>

125 *ibid.*

126 Available at: <http://energy.people.com.cn/n/2014/0522/c71661-25049165.html>

127 See *Annual Report on China's Energy Development 2016, Electric Power Planning & Engineering Institute*

128 *ibid.*

129 Available at: http://www.sdpc.gov.cn/jjxsfx/201701/t20170123_836252.html

The industrial and petrochemical sectors were the largest consumers of natural gas, accounting for 65 percent of the total consumption until 2014.¹³⁰ However, the market share of those sectors has been decreasing over the past years due to the increasing gas consumption in gas fired power generation and utilisation in the residential sector. This is particularly visible in urban areas, where the switch from coal to gas is progressively taking place for pollution mitigation reasons.

Regulatory and Legal Framework

The Oil and Gas Department under the NEA is responsible for the integrated management of the oil and natural gas industry. The department is responsible for formulating oil and gas development plans and policies, carrying out the industry's institutional reforms, managing the national Strategic Petroleum and Gas Reserves, and supervising commercial reserves.

There is not a specific law at the national level which governs the exploration, exploitation, and production of oil and gas. However, there are related legislations, policy documents, and administrative regulations to manage the upstream, midstream, and downstream sectors.

More than ten policies and plans have been published in 2017 which aim to stimulate gas sector development, such as "Gas development during the 13th Five-Year Plan", "Guiding opinions on strengthening gas distribution price regulation" (NDRC), "Guiding opinions on accelerating gas utilisation" by thirteen ministries, "Medium and long-term oil and gas pipeline network planning" (NEA and NDRC), "Several opinions on deepening the reform of the petroleum and natural gas system" (NDRC and NEA), "China State Council Guiding opinions on strengthening gas distribution and price regulation" (NDRC) and other regulations on gas transmission pricing and cost-setting. All these documents aim at attracting investments in the sector and increase the gas consumption in more industrial sectors. Lower supply cost as well as global and regional gas prices, is supposed to stimulate more gas demand growth in the coming years.

Table 3.2 China's Main Oil and Gas Laws and Regulations

Legislation	Function
Mineral Resources Law and Its Rules for Implementation ¹³¹	<ul style="list-style-type: none"> • Stipulates the rights and obligations of mineral developers
Regulations on the Sino-foreign Cooperation in the Development of Continental Petroleum Resources (Onshore Regulations) ¹³²	<ul style="list-style-type: none"> • Governs the foreign partnerships with the China National Petroleum Corporation (CNPC) and China Petrochemical Corporation (Sinopec) • Foreign investors who are interested in the upstream investment of oil and gas must partner with one of the designated SOEs above.
Regulations on the Exploitation of Offshore Petroleum Resources in Cooperation with Foreign Enterprises (Offshore Regulations) ¹³³	<ul style="list-style-type: none"> • Provides a similar framework for regulating foreign partnerships with CNOOC • Foreign investors who are interested in the upstream investment of oil and gas must partner with CNOOC
Regulations on Protection of Petroleum and Natural Gas Pipelines (2010)	<ul style="list-style-type: none"> • Ensures the safety of oil and gas transition • Regulates the planning, construction, and pipeline operations

¹³⁰ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

¹³¹ Available at: http://www.npc.gov.cn/englishnpc/Law/2007-12/12/content_1383942.htm

¹³² Available at: <http://english.mofcom.gov.cn/article/lawsdata/chineselaw/200211/20021100050367.shtml>

¹³³ Available at: http://www.fdi.gov.cn/1800000121_39_2355_0_7.html

Pricing

Before 2013, China had a gas pricing mechanism based on a “cost-plus model.” Under this model, the wholesale gas prices for local distributors—also called the City Gas Prices—were set by the government by summing the ex-plant price and the transmission tariff of natural gas. The ex-plant price only reflected the cost of domestic production, and therefore, the City Gate Price was linked exclusively to supply costs and was not responsive to the growing demand. Consequently, when China increased its natural gas imports in 2010, the prices set for local distributors became considerably lower than the contract prices of imported gas. Importers incurred heavy losses, which in turn discouraged natural gas imports.

These problems motivated the Chinese government to undertake a pricing reform, implemented throughout the country in 2013, which aimed at letting the market play a more active role in the formulation of City Gas Prices. As opposed to only reflecting domestic prices, the new pricing system links City Gas Prices with imported fuel oil price and imported liquefied petroleum gas (LPG).

To ensure the smooth transition between the old and new pricing regimes, the Chinese government divided the reform into two phases: in 2013, the new pricing mechanism only applied to the “incremental volumes” of pipelined natural gas, which referred to the amount of gas consumption added from 2013 and onwards.¹³⁴ Starting from 2014, the City Gate Prices for consumption before 2013 were gradually increased to that of the incremental volumes, and a unified gas price mechanism was achieved in 2015.¹³⁵ This new gas pricing system has reduced the price discrepancies between domestic and imported gas, and has enhanced both the transparency of price formulation and price predictability.

Moreover, to further enhance the stability and predictability of oil and gas prices, China established the Petroleum and Natural Gas Exchange (the Exchange) in the Shanghai Free Trade Zone (FTZ) at the end of 2016. By building regional benchmark prices and promoting the smooth allocation of resources, the Exchange is expected to serve as a platform for petroleum and gas trading, clearing, and settlement not only in China, but also in the whole Asia-Pacific region.

Domestic and International Infrastructure

In recent years, China has greatly improved its domestic gas infrastructure by developing a strong pipeline network, gas storage facilities, LNG regasification terminals, gas stations, and gas fired power plants. For instance, by the end of 2015, the country successfully transported natural gas through pipelines to all its provinces, with the exception of Tibet. The city gas pipeline network reached 430,000 km, covering a population of 330 million.¹³⁶

¹³⁴ Available at: https://globalchange.mit.edu/sites/default/files/DanweiZhang_MS_2016.pdf

¹³⁵ *ibid.*

¹³⁶ Available at: <http://www.ndrc.gov.cn/zcfb/zcfbghwb/201701/W020170119368974618068.pdf>

Table 3.3 Domestic Infrastructure of the Gas Sector by the end of 2015¹³⁷

Infrastructure	Capacity
Pipelines	64,000 km trunk pipelines, with the capacity of 280 bcm per year
LNG terminals	12 terminals are under operation with regasification capacity of 43 million tons per year and storage capacity of 5 million cubic meters.
CNG/LNG gas stations	6500 gas stations for vehicles, and another 13 for ships
Underground gas storage	18 facilities with a capacity of 5.5 bcm
Natural gas fired power plants	57,000MW installed capacity

According to the 13th FYP of the gas sector, 40,000 km of new domestic trunk pipelines will be constructed in the coming five years. The total mileage will reach 104,000 km by 2020, with a capacity of more than 400 bcm per year. The capacity of domestic underground gas storage is expected reach 14.8 bcm by 2020, up from 5.5 billion in 2015.¹³⁸

In terms of international infrastructure, China has constructed three gas import channels. These are the northwest channel for central Asian gas, the southwest channel for gas crossing Myanmar and the northeast channel for Russian gas (under construction). The situation of China's cross-border gas pipelines is summarized in Table 3.4.

Table 3.4 China's Cross-border Gas Pipelines

From	Stage	Capacity (billion cubic meters, bcm)	Length (outside China)
Central Asia	Phase A, operational	30 bcm	1830 km
	Phase B, operational		
	Phase C, operational	25 bcm	1830 km
	Phase D, under construction	25 bcm	840 km
Myanmar	Operational	12 bcm	771 km
Russia	West route under negotiation	30 bcm	
	East route under construction	38 bcm	2680 km

Summarized based on public sources

Market Structure

China's gas sector is monopolized by the three SOEs: CNPC, CNOOC, and Sinopec. CNPC was established in 1988 and has since then been the leading player in China's upstream sector. Its natural gas output equals 95.48 bcm per year, accounting for 71 percent of China's total production. It also operates 50,928 km of China's natural gas pipelines, about 76.2 percent of China's total pipeline length.¹³⁹ CNOOC is China's the only company responsible for exploring and developing offshore oil and gas assets. It is also the largest LNG importer in China. Sinopec is engaged in both the upstream and downstream activities, including the exploration,

¹³⁷ *ibid.*

¹³⁸ *ibid.*

¹³⁹ Available at: <http://www.cnpc.com.cn/en/cnpcatag glance/cnpcatag glance.shtml>

production, transportation, and marketing of oil, gas, and petrochemicals. In 2016, CNOOC, CNPC, and Sinopec accounted for 62 percent, 22 percent, and 14 percent of total LNG imports respectively.¹⁴⁰ At the local level, city gas companies are responsible for the distribution and sale of gas.

Despite the domination of the SOEs in the gas industry, China has been trying to let private companies play a more active role. The 13th FYP calls for eligible enterprises to participate in the development of oil and gas resources, which used to be dominated by SOEs.¹⁴¹ It also welcomes private capital to be invested in running oil and gas storage facilities.¹⁴²

Security of Supply

As China opens its economy to the world and conducts comprehensive structural reforms, it is facing rapid growth in the demand for gas. In 2015, China imported 61.4 bcm of natural gas, accounting for 31.8 percent of the country's total consumption.¹⁴³ Consequently, China has been trying to secure its gas supply from both domestic and overseas producers.

In terms of overseas energy supply, China has diversified its sources of gas imports by relying on both LNG terminals and cross-border pipelines. By establishing a cooperative relationship with its gas-rich neighbouring countries, China has hedged the supply risk away from solely depending on maritime transportation.

Moreover, to minimise political risks, China is trying not only to maintain close ties with its neighbours, but also to enhance its domestic production. For the latter purpose, China is also carrying out strategies and policies that encourage domestic and foreign investors to engage in the exploration and development of shale gas, coal bed methane, offshore gas, and other unconventional natural gas resources.

Oil

General Information

China is the world's fifth largest oil producer after Russia, Saudi Arabia, the US, and Iraq.¹⁴⁴ It is also the largest oil importer and the second largest oil consumer after the US.¹⁴⁵ China has built a large number of overseas oil production bases in order to increase its competitiveness and increase its influence on the global oil market.

China's oil demand is expected to grow in the coming years due to the country's increasing economic growth and continuously improving living standards. The 13th FYP for the oil sector recognizes the essential role of oil in promoting economic development and emphasizes its significance in maintaining national security.

Supply and Demand

Oil accounted for 18 percent of China's TPES in 2015.¹⁴⁶ Within this, China produced 199 million tonnes of crude oil in 2016, and it was the first time since 2010 that China's annual crude oil

¹⁴⁰ Available at: <http://www.sci99.com/news/23863219.html>

¹⁴¹ Available at: http://www.chinadaily.com.cn/china/2017-05/22/content_29437500.htm

¹⁴² *ibid.*

¹⁴³ Available at: <http://www.ndrc.gov.cn/zcfb/zcfbghwb/201701/W020170119368974618068.pdf>

¹⁴⁴ Available at: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2241rank.html>

¹⁴⁵ Available at: <https://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2016/bp-statistical-review-of-world-energy-2016-full-report.pdf>

¹⁴⁶ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

production fell below 200 million tonnes.¹⁴⁷ This production cut is due to the low international crude oil price since 2014, as Chinese oil enterprises see import as more profitable than domestic production. Consequently, the volume of crude oil import reached 381.1 million tons in 2016, 13.6 percent higher than that of the previous year, compared to an average annual growth of 7 percent during the 12th Five-Year period.¹⁴⁸

In 2015, China consumed 786.7 Mtce, accounting for 18 percent of its total PEC.¹⁴⁹ The country's oil consumption has been growing at an annual rate of 4.8 percent from 2010 to 2015, 3 percentage points higher than the average rate from 2005 to 2010.

By sector, transportation and postal services are the most active consumers of oil, accounting for 37.3 percent of the national total oil consumption in 2015.¹⁵⁰ Due to a 13.7 percent increase of motor vehicle sales in 2016, oil consumption by cars increased rapidly, and has become the major driving force of China's energy consumption in transportation.¹⁵¹ Industrial and residential sectors are the second and third largest consumers, accounting for 34.3 percent and 11.2 percent of the national total in 2015.¹⁵²

By oil types, China's demand profile is increasingly driven by gasoline, because of the above-mentioned surge in car ownership. Additionally, China experienced a 115.1 percent increase in the export of diesel in 2016.¹⁵³ This increase can be explained by China's oil refinery overcapacity, partly because of the fact that the improvement of the railway transport systems and LNG-powered ships are driving diesel-oriented transportation out of the market.

Institutional Governance and Regulatory Framework

In China, the oil and gas industries are managed by the same institutions. For instance, the NEA is in charge of the overall formulation of development plans for the gas as well as the oil sector. Similarly, other governmental authorities that offer institutional assistance to the gas sector also provide support to the oil industry. The legislations listed in section 4.2 (Gas) also apply to the regulation of oil.

Pricing

In accordance with its economic reforms, China has been conducting market-oriented oil pricing reforms since 1998. The country's current oil pricing mechanism was established by the NDRC, based on the document "Oil Price Management Regulation" issued in early 2016.¹⁵⁴ The new regulation sets up different pricing regimes for 1) crude oil, 2) refined oil, namely gasoline and diesel products for retail and wholesale.

- 1) Crude oil prices are determined by the enterprises themselves with reference to the international market.
- 2) Refined oil prices follow government guidance or government pricing, depending on specific situations:
 - a. The government provides guidance to the retail and wholesale prices of gasoline and

¹⁴⁷ Available at http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html

¹⁴⁸ Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467575.html and http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

¹⁴⁹ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

¹⁵⁰ *ibid.*

¹⁵¹ See *Annual Report on China's Energy Development 2016, Electric Power Planning & Engineering Institute*

¹⁵² Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

¹⁵³ Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

¹⁵⁴ Available at: http://www.sdpc.gov.cn/gzdt/201601/t20160113_771299.html

diesel. The NDRC is responsible for setting price ceilings for each provincial region. The price ceilings are adjusted every ten working days based on the international crude oil market, but they will remain the same if the adjustment is less than 50 CNY per tonne. Then, the retail enterprises can set prices below the price ceilings.

- b. The prices of gasoline and diesel for national reserves, in contrast, are determined by the NDRC.

A summary of the regime of price ceilings (government guidance) for gasoline and diesel is provided below:

Table 3.5 The Regime of Price Ceilings for Gasoline and Diesel ¹⁵⁵

Benchmarks for crude oil prices in the international market (P_i)	Price ceilings of gasoline and diesel in the Chinese market
$P_i \leq 40$ US dollars	Assume that the crude oil price is 40 US dollars, and calculate the price ceiling based on the marginal profit of normal processing
40 US dollars $< P_i \leq 80$ US dollars	Calculate the price ceiling based on normal processing profit margins
80 US dollars $< P_i \leq 130$ US dollars	Calculate the price ceiling based on deducted processing profit until the profit hits zero
$P_i > 130$ US dollars	Use fiscal and tax policy to maintain price stability

This refined oil pricing mechanism reflects the changes in international crude oil prices, reduces unreasonable consumption, and makes sure that the prices are affordable to the consumers.

Domestic and International Infrastructure

Domestically, China has been making continuous efforts to improve its oil pipeline network. By the end of 2015, China's total crude oil pipeline reached 27,000 km and its refined oil pipeline reached 21,000 km. During the 13th Five-Year period, a total of 5,000 km of crude oil pipelines will be constructed. The total mileage is expected to reach 32,000 km by 2020, with a transmission capacity of more than 650 million tonnes per year. In addition, China plans to increase the length of its refined oil pipeline from 21,000 km in 2015 to 33,000 km in 2020, with a transmission capacity of 300 million tonnes per year.

A table comparing China's oil pipeline situation in 2015 and its 13th FYP on improving the pipeline network is provided below:

¹⁵⁵ Available at: <http://www.sdpc.gov.cn/gzdt/201601/W020160113570560933794.pdf>

Table 3.6 Domestic Infrastructure of the Oil Sector
(Based on 13th FYP for Oil and Gas issued in January 2016)¹⁵⁶

Infrastructure	Capacity	
	Crude oil pipelines	27,000 km Capacity: 530 million tons per year
Refined oil pipelines	21,000 km Capacity: 210 million tons per year	33,000 km Capacity: 300 million tons per year

In addition, China established the national Strategic Petroleum Reserves (SPRs) system in 2001 under the country's 10th FYP. As of mid-2016, China has built 9 SPR sites in the south, southeast, northeast, and northwest of China (Guangdong, Zhejiang, Liaoning, Gansu, Shandong, Xinjiang, and Tianjin), collectively reaching a capacity of 31.97 million tons.¹⁵⁷ The SPRs have been playing an important role in ensuring sufficient oil supply in China, and in responding to oil-related emergencies.

China has also been making efforts to enhance its international oil infrastructure through the diversification of oil supply origins, oil import channels, and ways of transportation. The result has been satisfying, as China developed 4 oil import channels, from the northwest, northeast, southwest, and maritime. Below is a table summarizing China's cross-border oil pipeline infrastructure:

Table 3.7 Cross-border Oil Pipelines of China, by 2016

From	Stage	Capacity (million tons per year)
Kazakhstan (Northwest)	Operational	20
Russia (Northeast)	Operational	15
	Parallel line under construction	15
Myanmar (Southwest)	Operational	13 ¹⁵⁸

Summarized based on open resources.

Market Structure

China's oil sector is monopolized by three SOEs: CNPC, CNOOC, and Sinopec. These SOEs dominate the upstream operations such as developing the oil reserves, building and operating pipelines, managing refining plant and sale terminal, and filling the SPRs. The mid and downstream operations are shared by both the SOEs and private companies. Sinopec and CNPC accounted for 40 percent and 22 percent respectively of China's refinery operations in 2015, while local private refineries together contributed to 24 percent of the national total.¹⁵⁹

The Chinese government is embarking upon an ambitious plan of economic restructuring. In 2015, the NDRC and the MOFCOM authorized several qualified private refineries the right to use imported crude oil or to even import crude oil themselves. Meanwhile, China had begun to allow collaborations between oil SOEs and private companies. The Sinopec Group intended

¹⁵⁶ Available at: <http://www.sdpc.gov.cn/zcfb/zcfbghwb/201701/W020170119368974467126.pdf>

¹⁵⁷ Available at: http://www.stats.gov.cn/tjsj/zxfb/201609/t20160902_1396131.html

¹⁵⁸ The planned final capacity will be up to 22 mtpa

¹⁵⁹ Available at: <http://sanwen.net/a/ufrwnoo.html>

to cooperate with private companies in refined oil sales; CNPC promised to allow private companies to have no more than 49 percent of the stake in oil exploration businesses.¹⁶⁰ This gradual liberalisation of the oil sector will allow more private investment in the oil industry, which will then bring changes to the current SOE-dominated market structure.

Security of Supply

China's security issue of oil supply is reflected in two aspects: first, the country's demand for overseas oil is large, which has resulted in a continuing increase in oil import and a consequent dependence on the global oil market. Second, China's faces geopolitical challenges in its import transportation channels.

In 2016, 57 percent of China's 7.6 million barrels per day (b/d) of crude oil imports were from OPEC countries, notably Saudi Arabia, Angola, and Iraq.¹⁶¹ Most of the imported oil must go through the Strait of Malacca, the shortest sea route between African and Persian Gulf suppliers and Asian consumers, including China. As a 17-mile wide channel situated between the Malay Peninsula and the Indonesian island of Sumatra, the Strait of Malacca is long considered a natural bottleneck with the potential for competitions, collisions, and oil spills.¹⁶²

To address these issues, China has been making efforts to diversify its sources of oil imports. An excellent example would be the China-Myanmar oil and natural gas pipelines completed between 2013 and 2014, which intended to create an alternative import path to bypass the Strait of Malacca. Additionally, China intends to ensure its energy supply through overseas upstream investment, as it has been encouraging oil SOEs to invest in unconventional, deep-water, and oil-sands resources abroad.

Finally, China is continuing developing its emergency response mechanisms. As of mid-2016, the combined reserves of all the SPRs equalled the amount of 30 days of China's petroleum imports. Moreover, the government plans to triple the size of SPRs and meet the international reserve standard of the 90-day net import equivalent by the end of 2020.¹⁶³

Electricity

General Information

China has surpassed the US as the world's largest electricity consumer in 2011, after 20 years of rapid economic growth. China's electricity industry is characterized by the fast development of installed generation and transmission capacity, which includes conventional thermal power and hydropower, renewable energy such as wind and solar and long-distance UHV transmission lines. China also has the world biggest nuclear construction program.

With the advancement of the domestic electricity generation infrastructure, China is now able to maintain a slight surplus of electricity supply, while shortages only happened in extremely hot weather in some regional systems. Moreover, as China established and has been continuously improving its "West to East" electricity transmission network, it has been able to achieve an overall geographical balance of electricity supply between the high-demand eastern and resource-rich western part of the country.

However, several problems have emerged as China's power industry develops. First, the low-flexibility generation capacity cannot balance the intermittency of wind and solar generation

¹⁶⁰ Available at: http://www.chinadaily.com.cn/china/2017-05/22/content_29437500.htm

¹⁶¹ Available at: <https://www.eia.gov/todayinenergy/detail.php?id=30792>

¹⁶² Available at: <https://www.eia.gov/beta/international/regions-topics.cfm?RegionTopicID=WOTC>

¹⁶³ Available at: http://www.stats.gov.cn/tjsj/zxfb/201609/t20160902_1396131.html

which have been developing very fast, leading to large energy shortages in the northern and western regions. Second, the rapid development of hydropower generation capacity, when coupled with the stagnant demand growth in regions where hydropower is a dominant source of electricity, has resulted in serious electricity oversupply.

Moreover, as electricity prices have long been set by the government, they fail to reflect changing market conditions and guide market operations. Consequently, institutional, infrastructure, and market reforms are necessary for the further, sustainable development of China's electricity industry.

Supply and Demand

China's total electricity production has been increasing steadily within the past 10 years. In 2016, China produced 6,143 TWh of electricity, 5.6 percent higher than in 2015.¹⁶⁴ Fossil fuel is the dominating power for electricity generation, contributing to 72.2 percent of the national total. Meanwhile, however, China's electricity generation from alternative energy resources has been increasing significantly. Hydro, wind, and nuclear accounted for 19.4 percent, 3.9 percent, and 3.5 percent of the national total power generation respectively.¹⁶⁵ Particularly, nuclear and wind-led power generation increased by 24.4 percent and 30.1 percent respectively in 2016.¹⁶⁶

By the end of 2015, China's per-capita annual electricity consumption reached 4,142 kwh, slightly higher than the global average. Electricity contributed to 25.8 percent of the final energy consumption in 2015. The primary sector, secondary sector, tertiary sector, and households accounted for 1.9, 70.8, 13.5, and 13.8 percent respectively of China's electricity consumption in 2016.¹⁶⁷

Regulatory and Legal Framework

China has a relatively complete legal and regulatory framework for the electricity industry. A list of major laws and regulations (non-exhaustive) is provided in the table below:

¹⁶⁴ Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

¹⁶⁵ *ibid.*

¹⁶⁶ Available at: <http://www.cec.org.cn/guihuayutongji/tongjixinxi/niandushuju/2017-01-20/164007.html>

¹⁶⁷ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

Table 3.8 China's Laws and Regulations of the Electricity Industry ¹⁶⁸

Regulations	Function
Electric Power Law	<ul style="list-style-type: none"> • Aims at ensuring the secured operation of the electricity industry and protecting the interests of stakeholders • Governs all kinds of electricity-related businesses and sets rules on the generation, transmission, and distribution of electricity • Grants prior approval for investment in the development of power resources and establishment of power-generating enterprises
Regulation of Electric Power Supervision	<ul style="list-style-type: none"> • Maintains the order of the electricity market and ensure the safe and stable operation of the power system • Protects the legitimate rights of power investors, operators, users, and public interests
Regulations on Supply and Utilisation of Electricity	<ul style="list-style-type: none"> • Protect the legitimate rights of power suppliers and users, and achieve safe and economical power supply and utilisation
Regulations on Power Grid Dispatch Administration	<ul style="list-style-type: none"> • Organize, direct, and coordinate the operation of the grid • Establish highly hierarchical structure of power grid dispatching
Regulations on the Protection of Power Facilities	<ul style="list-style-type: none"> • Protect power facilities such as power generation facilities, substation facilities, power grid, and other ancillary facilities.
Measures on the Supervision and Management of Electric Production Safety	<ul style="list-style-type: none"> • Manage and supervise power facilities operation, power projects construction, power engineering quality, power emergency response, and hydropower dam operation.

There are several government bodies involved in electricity regulation. The Departments of Electricity, Nuclear Power and New Energies under the NEA are responsible for managing the electricity power industry, formulating development plans and policies, and ensuring the implementation of these policies.

The regulatory bodies of China's electricity industry are the Department of Power Safety Supervision and the Department of Electricity Market Supervision under the NEA. These departments are responsible for reviewing market structure operations, making electricity trading agreements, issuing and renewing business licenses, setting the codes of the electricity industry.

The price regulatory authority is the Price Department under the NDRC. It regulates the prices of electricity from grids, the prices of transmission and distribution, and sales prices. The Bureau of Economic Operations Adjustment of NDRC, together with two SOEs State Grid Corporation of China (SGCC) and China Southern Power Grid (CSPG), is in charge of power generation plans and quotas.

The CEC is a semi-official organisation jointly managed by power enterprises (both state-owned and private) and non-governmental institutions. The CEC bridges its members with government, and presents industrial concerns and suggestions to the regulators.

¹⁶⁸ Available at: <http://www.nea.gov.cn/nyftfg/index.htm>

Domestic and International Infrastructure

China has made great progress in the development of the power-industry infrastructure, both domestically and internationally. Domestically, China's total installed capacity reached 1,530 GW by the end of 2015, with an average annual growth of 9.5 percent in the past 5 years. Within this, the country observed an increase of 320 GW in hydropower installed capacity, 131 GW in wind power, 42 GW in solar power, and 990 GW in thermal power.¹⁶⁹

China has been enhancing its capacity of electricity transmission. The length of power transmission lines with a capacity of 220 kV and above totalled 609,000 km in 2015, 36 percent higher than that in 2010.¹⁷⁰ Additionally, to address the imbalances between the electricity generation between the eastern and western parts of the country, China has initiated the world's unique long-distance, high-voltage, and high-capacity power transmission project - the "West to East" project. The scale of this project reached 140 GW in 2015, 40 percent higher than that in 2010. These transmission lines have a capacity of 800 kV DC and 1000kV AC. China has the world-leading technology in this field.

Electro-mobility and the related charging infrastructure are the emerging products in the power sector and will have great potential in China's market. In 2016, the production of new energy vehicles in China has reached 517,000, accounting for 1.84 percent of the national automobile output, which is more than fifty times the production of new energy vehicles in 2011. In the same year, the number of new public charging piles in China has been increased by 100,000, and the total number of public charging piles has reached more than 150,000 units. China has become the fastest developing country for the charging infrastructure.

The R&D of energy storage technologies has been closely followed by China and other countries in the world. It is of great significance for the further development of the renewable energy sector. In 2017, five departments of NDRC, and the NEA jointly issued the document of "Guidance for Promoting the Development of Energy Storage Technology and Industry", which points out that the development goals for the next decade will be achieved through the transition from the R&D demonstration to early commercialisation, and then to the scale-up of projects.

Progress has also been made in international power-infrastructure interconnection with neighbouring countries. China has joined the Regional Power Trading and Coordinating Committee of the Greater Mekong Sub region with the aim of accelerating regional power interconnection and electricity market establishment. China and its SOEs have also been involved in the power grid operations in Portugal, Greece, and Brazil.

Market Structure and Pricing

China's electricity market is dominated primarily by SOEs. The generation sector includes both SOEs and private generation enterprises, but the top 5 SOEs contribute to nearly half the national installed capacity. There is certain market competition in the electricity generation sector, as generation companies contest against each other for generation quotas, but the level of competition is relatively low.

The transmission, distribution, and retail and wholesale of electricity are not separated, and these processes are monopolized by 2 state-owned grid operators: the SGCC in the north and the CSPG in the south. Because of this monopoly situation, the price of electricity is criticized

¹⁶⁹ Available at: <http://www.ndrc.gov.cn/zcfb/zcfbghwb/201612/P020161222570036010274.pdf>

¹⁷⁰ *ibid.*

to be deviated from the market value, and state-owned power grid companies can make unreasonably large profits that add to the burden of power users.¹⁷¹

The electricity prices in China are set every year by the NDRC and the local-level governments on a fixed CNY per kwh basis.¹⁷² In practice, however, electricity prices have stagnated for years and failed to reflect the changing economic conditions, respond to the country's development goals, or offer adequate incentives for electricity generators to operate efficiently.¹⁷³ Consequently, electricity market reform is needed so that price can reflect market value and send better signals for companies and investors.

For the purpose of advancing the reform of transmission and distribution pricing mechanism, China issued the "The Pricing Methods of Transmission and Distribution Price for Provincial Power Grid" and "Measures on the Supervision and Management of Pricing Cost of Power Transmission and Distribution Systems". These two regulations together build up the framework of the cost, supervision, and management rules for the power grid enterprises. At the same time, China is carrying out the study about the pricing mechanism focusing on cross-region and cross-province transmission lines.

Market Reform

In 2015, the government released the document "Further Strengthening the Institutional Reform of the Electric Power Industry," which aims at deregulating China's electricity market and establishing fair and orderly market rules. The reform follows the principle of "Controlling the middle, opening at both ends." "Controlling the middle" means that the government will only set limits on the transmission and distribution of electricity.

"Opening at both ends," on the other hand, means that China will loosen market restrictions on the generation, wholesale, and retail of electricity by letting the market play a more active role in determining prices. Generators will be able to decide prices either through agreements with large users or retailers, or through market competition. The government also intends to build up electricity trading institutions, which will allow power generation and consumption companies to trade directly and freely.

As a result, the reform is expected to revise China's long-standing model, which combines transmission, distribution, and sale in a single mechanism. It is also expected to end the practice of grid operators gaining profits from the difference between generation and retail prices. The separated and deregulated electricity operation system will further facilitate the promotion of private investment in electricity distribution and retail businesses.¹⁷⁴

Security of Supply

To China, the security of electricity supply is reflected in two aspects: adequacy and reliability. China's concern about adequacy is low, as the country has entered a phase of power supply surplus. Nevertheless, China's electricity industry faces structural and geographical imbalances. Eastern and southern parts of China, which are more economically developed and less resource rich, demand large-capacity and long-distance power electricity flows from the western and northern production bases.

From the perspective of reliability, China intends to strengthen its power system, prevent power interruption, and enhance the capacity of emergency responses. A common suggestion is

¹⁷¹ Available at: http://english.gov.cn/news/top_news/2016/03/29/content_281475317044513.htm

¹⁷² Available at: <http://www.raponline.org/blog/wholesale-electricity-markets-pricing-china-reform-going/>

¹⁷³ *ibid.*

¹⁷⁴ Available at: http://tgs.ndrc.gov.cn/zywj/201601/t20160129_773852.html

to build a synchronous and stronger national grid system. This approach would reduce the possibility of power interruption, but would at the same time increase the harmful effects if the cascading failures do happen.

To address these issues, the government has been building cross-regional (North-South and West-East) HVDC transmission lines in China. These long distance and large capacity transmission lines are expected to help tackle the structural imbalances of electricity between the eastern and western areas.

Renewable Energy

General Information

In recent years, China's renewable energy sector has been growing rapidly, making China the largest renewable energy consumer in the world.¹⁷⁵ In 2015, the commercial utilisation of renewable energy sources accounted for 12 percent of China's total PEC.¹⁷⁶ The country's annual use of all forms of renewable energy reached 500 Mtce, with a growth rate of 12.4 percent every year from 2011 to 2015.¹⁷⁷

The continuing updated technology has made the cost of renewable energy decrease progressively. This advancement, along with the government support, has not only resulted in an expansion of China's renewable energy sector, but also made renewable energy a core element in facilitating energy transformation and addressing climate change.

Supply and Demand

Electricity is the main renewable energy utilisation form in China. In 2015, renewable power accounted for about 25 percent of the total electricity consumption, 4.2 percentage points higher than that in 2010. Within the renewable energies, non-water renewable power accounted for 20 percent of the total renewables consumption, comparing to 3.6 percent in 2010.¹⁷⁸ The national output of biogas reached 19 bcm in 2015, with an average annual growth rate of 6.3 percent for the past five years. The total installed solar thermal panel reached 44,000 square meters, which increased at an average rate of 22 percent for the past five years.¹⁷⁹

In the near future, the demand for renewable power will certainly grow. Given the rapid improvement of the living standards in the rural area, the prospect of the biogas market is very promising. Bio-liquid fuel has already been used in the bio-based chemical industry, the success of which will further encourage the development of aviation fuel and bio-based chemical materials.¹⁸⁰

Regulatory and Legal Framework

The governance of renewable energy in China is mainly undertaken by the Department of New and Renewable Energy under the NEA. It is responsible for the management of renewables, the formulation of development plans and policies, as well as the implementation of these policies.

China enacted the "Renewable Energy Law" in 2005¹⁸¹ to promote the exploitation of renewable energy. The law applies to wind energy, solar energy, water energy, biomass energy,

175 Available at: <http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/country-and-regional-insights/china.html>

176 Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

177 http://www.ndrc.gov.cn/zcfb/zcfbtz/201612/t20161216_830264.html

178 Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

179 Available at: http://www.sdpc.gov.cn/zcfb/zcfbtz/201612/t20161216_830264.html

180 Available at: http://www.gov.cn/xinwen/2016-12/05/content_5143612.htm

181 Available at: http://www.npc.gov.cn/englishnpc/Law/2007-12/13/content_1384096.htm

geothermal energy, and ocean energy, while excluding straw or firewood directly burnt in low-efficiency stoves. Whether the law applies to hydropower is subject to the approval of the State Council.

The law puts forward four categories of policy guidance for the development of renewable energy. First, a total volume targeting system of electricity generation is established to keep its development consistent to the power grid system. Second, the law sets up a compulsory grid-connecting system, which gives priority to renewable power generation. Third, a categorized pricing system is built to motivate renewable power development under different resource conditions. Fourth, a financial support system is created to improve the competitiveness of renewable energies compared with fossil fuels, which will be discussed in the following subsection.

Financial Programs

To promote the development and utilisation of renewable energy, the MOF, the NDRC, and the NEA jointly established the Renewable Energy Development Fund in 2011. These authorities also co-issued the Interim Measures on Renewable Energy Development Funding Imposition and Management in January 2012 to guide the management of the Fund.¹⁸²

The Renewable Energy Development Fund consists of two parts: first, the Special Public Finance Fund is created to support scientific and technological research, pilot projects, and many other public welfare areas regarding renewable energy development.¹⁸³ The revenue will be used to subsidise renewable energy companies so as to make the renewable power's price affordable to households.

Second, the Chinese government has been managing electricity pricing to finance renewable energy development. In 2013, the additional charge on using electricity was raised from 0.8 to 1.5 cents CNY per kWh and in 2017 the charge was set at 1.9 cents CNY per kWh, except for households and agricultural production.¹⁸⁴ The money levied is then used to support renewable energy development.

Market Structure (Hydro, Solar, Wind, Biomass)

• Hydropower

Central SOEs reserve the right to develop large-scale hydropower stations on the main rivers in China. Local SOEs and private companies build smaller hydropower stations along numerous tributaries in China. In some remote rural areas, small hydropower stations serve as the main power source for regional independent grids.

In order to improve the efficiency and enhance the ecological protection of hydropower development, China is now implementing the policy of River Cascade Development. The policy rules that one river should be developed by one single investor, and this investor plans the cascade power stations from the upstream to the downstream of the river.

• Wind and Solar Power

Unlike the fossil fuel development led by SOEs, the market participants of wind and solar power are diverse. China has a sound industrial chain in the field of wind power and photovoltaic, because of the subsidiary policies provided by the government. In terms of equipment manufacturing capacity, 4 Chinese wind power equipment manufacturing enterprises are

¹⁸² Available at: http://zhs.mof.gov.cn/zhengwuxinxi/zhengcefabu/201112/t20111212_614767.html

¹⁸³ Available at: http://jjs.mof.gov.cn/zhengwuxinxi/zhengcefagui/201504/t20150427_1223373.html

¹⁸⁴ Available at: http://www.nea.gov.cn/2014-09/29/c_133682226.htm

among the world's top 10. Additionally, China produced 48 percent and 70 percent of the global polysilicon and PV modules, respectively.¹⁸⁵

- **Biomass**

The biomass sub-sector is relatively undeveloped comparing to other renewable energies. This is due to the fact that the peasants in China are more scattered and conduct small-scale production activities, which makes it difficult to collect agricultural and forestry biomass raw materials from farms. To promote the development of biomass, China has been trying to put forward a commercial biomass utilisation model of “nearby collection and nearby consumption.” According to this model, biomass generation sites will be built in biomass-abundant areas to encourage local consumption. By connecting biomass production and consumption, the model is expected to address the difficulty of biomass collection and transportation.¹⁸⁶

Energy Efficiency

General Information

China considers energy efficiency the country's “first fuel” that brings short-term and long-term benefits to the country's economic and social development. Accordingly, China has been following since the early 1980s the principle of “giving consideration to conservation and development simultaneously, and placing top priority on conservation.”

The most recent white paper titled “China Energy Policy” was issued in 2012, which targeted not only the optimisation of the industrial structure, but also the strengthening of energy conservation in industries, buildings, and transportation. As a result, China's energy intensity has declined continuously and significantly within the past 30 years.

China is also active in energy efficiency-related international cooperation. As a founding member of International Partnership for Energy Efficiency Cooperation (IPEEC), China proposed to initiate IPEEC's Top 10 Energy Efficiency Best Practices and Best Available Technologies Task Group in 2013.¹⁸⁷ In 2016, China hosted the G20 Energy Ministerial Meeting, and one of its most important outcomes is the G20 Energy Efficiency Leading Program (EELP).¹⁸⁸ The EELP expands the areas of voluntary international collaboration from 6 to 11.¹⁸⁹

Energy Intensity

China's energy intensity, calculated as the total energy consumption per GDP, has been continuously reducing due to the progress made in energy conservation, efficiency improvement, and economic structural adjustment. From 2000 to 2015, China's energy intensity decreased from 1.47 tce to 0.62 tce per 10,000 CNY, as shown in Figure 4.1. The reduction in energy intensity signifies that China has improved its energy efficiency, and has managed to support economic and social development with less energy.

Yet, China's energy-saving potential is huge. Although China has achieved remarkable results in energy intensity reduction, its energy consumption per unit of GDP is still high, about 16

¹⁸⁵ Available at: http://zfxqk.nea.gov.cn/auto87/201612/t20161216_2358.htm and http://www.nea.gov.cn/2016-11/29/c_135867633.htm

¹⁸⁶ Available at: http://www.gov.cn/xinwen/2016-12/05/content_5143612.htm

¹⁸⁷ Available at: <https://ipeec.org/cms/23-the-top-ten-energy-efficiency-best-practices-and-best-available-technologies-task-group-top-tens-.html>

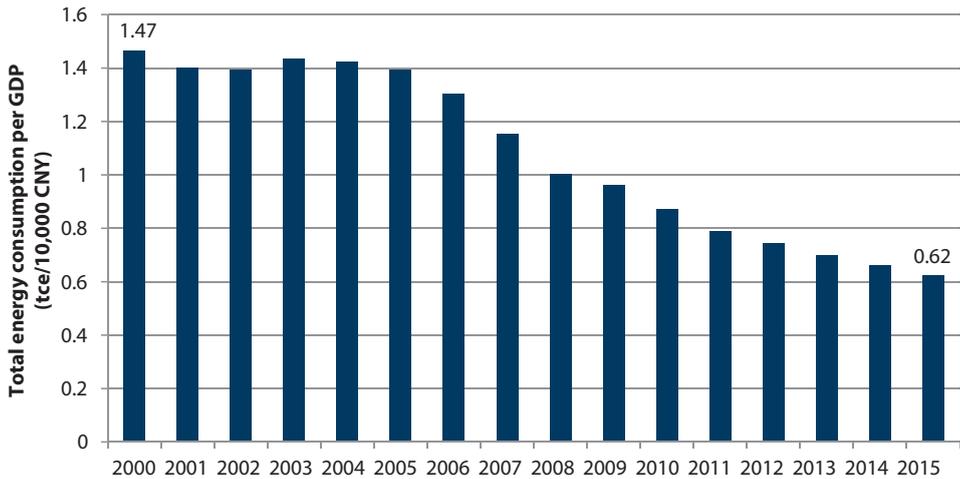
¹⁸⁸ Available at: http://www.nea.gov.cn/2016-06/30/c_135478842.htm

¹⁸⁹ There areas include: covering vehicles, networked devices, finance, buildings, industrial processes, electricity generation, super-efficient equipment and appliances deployment initiative (SEAD), best available technologies and practices (TOP TENs), district energy systems (DES), energy efficiency knowledge sharing framework and energy end-use-data, and energy efficiency metrics. More information available at: https://ipeec.org/upload/publication_related_language/pdf/481.pdf

percent higher than the world average in 2014.¹⁹⁰ It is therefore essential for China to further save energy and improve energy efficiency.

The 13th FYP aims at reducing the coal consumption rate and promoting energy conservation in key areas such as industry, transportation, trade circulation, and public infrastructure. Specifically, efforts will be made to enhance industrial regulation, entry administration, and energy conservation. Enterprises in power, petroleum and petrochemical, mining, or other industries which fail to meet certain environmental standards, shall be advised to exit the market in an orderly manner.¹⁹¹

Graph 3.1 Energy Intensity of China



Source: NBS¹⁹²

Regulatory and Legal Framework

The State Council set up the National Leading Group of Climate Change, Energy Conservation and Emission Reduction to coordinate development of economy, society, environment, and resource. The NDRC is responsible for the work of this Group. Under the NDRC, it is the Department of Resource Conservation and Environmental Protection that is in charge of organizing the formulation and implementation of plans, policies, and measures concerning the conservation, the comprehensive utilisation of energy and resources, and the development of a circular economy.

The NEA is also responsible for energy conservation, but unlike the NDRC, it focuses on energy production, processing, conversion, and transportation. The NDRC pays more attention to the improvement of energy efficiency under the entire national economy system. The SASAC is responsible for strengthening the supervision and assessment of energy-saving and emission reduction targets of SOEs.

In terms of legislations, China enacted the Energy Conservation Law in 1997 (EC Law),¹⁹³ with a vision to promote energy conservation, enhance energy efficiency, protect the environment,

¹⁹⁰ Available at: <http://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE?locations=CN>

¹⁹¹ Available at: http://www.gov.cn/zhengce/content/2017-01/05/content_5156789.htm

¹⁹² Calculated based on: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

¹⁹³ Available at: <http://www.lawinfochina.com/display.aspx?lib=law&id=6467>

and promote comprehensive, coordinated, and sustainable development. The EC Law established the basic national policy status of energy conservation in China, and set up specific requirements to energy saving measures. According to the EC Law, the Chinese government conducts energy efficiency assessment on fixed asset investment projects. Those projects, which do not meet the mandatory energy efficiency standards, are not implemented.

Financing Energy Efficiency Programs

Central and local governments have introduced a series of fiscal, tax, and price policies to support energy conservation. The central government allocates special funds to support key projects, capacity building, as well as the advocacy of energy conservation and emission reduction.

Furthermore, by introducing a differential price and punitive tariff policy, the central government encourages enterprises to take energy conservation measures and rewards enterprises or regions that better achieve the targets in energy-saving and emission reduction.

Regarding public procurement, governments are required to choose energy-efficient products. To support this policy, the taxation authority has set up different tax incentive catalogues, so that enterprises will enjoy reductions in income tax, value-added tax, and tariff for producing or purchasing products that fall into the energy-efficient categories.

Climate Change and Environment

General Information

China is the largest source of CO₂ emissions in the world and it is one of the countries most impacted by climate change. Since the 1990s, China has experienced an average annual economic loss of over 2,000 billion CNY and more than 2,000 deaths due to extreme weather disasters.¹⁹⁴ China's total GHG emissions in 2012 (excluding land use change and forestry) was 11.896 billion tons of carbon dioxide equivalent, of which, 9.337 billion tons of carbon dioxide equivalent of GHGs came from energy activities.¹⁹⁵

Consequently, China considers it crucial to respond, mitigate, and adapt to climate change. In recent years, China has confirmed its constructive role in the international community in addressing climate change. China signed the United Nations Framework Convention on Climate Change (UNFCCC) on 11 June 1992, and was one of the first countries to ratify this treaty before it entered into force on 21 March 1994. China is also a member of the Intergovernmental Panel on Climate Change (IPCC), and many Chinese scientists have contributed to the climate change assessment works.

As the first developing country to have promised to put a cap on CO₂ emissions, China contributed to the successful outcome of COP21 in Paris in 2015 and ratified the Paris Agreement in September 2016. As already mentioned, the strategic document "Energy Supply and Consumption Revolution Strategy (2016-2030)" issued by the NDRC and the NEA also sets goals to combat climate change and implement China's pledges to the Paris Agreement.¹⁹⁶

According to the Strategy, by 2030, the consumption of non-fossil energy and natural gas will account for 20 percent and 15 percent of the total PEC, respectively. Meanwhile, the usage of carbon-intensive fossil energy will be largely reduced, whereas the proportion of ultra-low-pollution coal-fired power plants will be increased to more than 80 percent of the total national

¹⁹⁴ Available at: <http://www.gov.cn/gzdt/att/att/site1/20131209/001e3741a2cc140f6a8701.pdf>

¹⁹⁵ Available at: <http://qhs.ndrc.gov.cn/gzdt/201702/W020170228544349078310.pdf>

¹⁹⁶ Available at: <http://www.ndrc.gov.cn/gzdt/201704/W020170425548780357458.pdf>

power plants. Finally, a commercialized energy service system is expected to be built in rural China. Looking even further, China envisions the establishment of a modern energy system by 2050, where the consumption of non-fossil energy will exceed 50 percent of the total PEC. China's energy efficiency and energy technology will reach the world advanced level, with the country becoming an important participant in global energy governance.

Meanwhile, as a developing country, China underlines that the Principle of Common but Differentiated Responsibility and the Principle of Respective Capability should be applied when the international community deals with climate change issues. China believes that historically, developed countries have contributed more to climate change, so they should take more responsibilities in emission reduction and meanwhile provide developing countries with financial and technological support. Developing countries, on the other hand, should implement concrete policies to maintain the balance between economic development and environmental protection.

Regulatory and Legal Framework

The NDRC is the leading ministry regarding climate change issues, and undertakes concrete work assigned by the National Leading Group of Climate Change, Energy Conservation, and Emission Reduction. The Department of Climate Change under the NDRC is responsible for comprehensively analysing the impact of climate change on social-economic development and formulating key strategies, plans and policies that deal with climate change. This department ensures and promotes China's participation in the UNFCCC and international climate change negotiations.¹⁹⁷

In 2013, the NDRC, together with many other ministries, formulated China's National Strategy for Climate Change Adaptation.¹⁹⁸ The strategy clarified the guidelines and principles for climate change adaptation and set specific goals to be achieved by 2020. It highlighted a wide range of measures regarding protecting water and soil resources, reducing climate change impacts on agriculture, and strengthening disaster prevention. It emphasized the need for disaster early-warning detection and information-sharing mechanisms at the national and local levels. Moreover, in 2014, the NDRC issued the National Climate Change Plan (2014-2020) putting forward China's main objectives and key tasks to address climate change.¹⁹⁹

Sustainable Development Programs and Financing

Financing is essential in addressing climate and other environmental challenges. From the international perspective, China benefits significantly from the Clean Development Mechanism (CDM) as a signatory of the Kyoto Protocol. Over 1,543 projects had been issued to achieve Certified Emission Reduction (CER) under the China Clean Development Mechanism Fund (CCDMF) by the end of February 2017.²⁰⁰ As a founding member of Global Environment Facility (GEF), China got 1.14 billion USD worth of grants for 148 projects in the past 25 years, covering areas like climate change, biodiversity, persistent organic pollutants, waters, and land degradation.²⁰¹

Meanwhile, China offers climate-related assistance to developing countries as well, especially through the establishment of the South-South Cooperation Funds. From 2011, the Chinese

197 Available at: http://en.ndrc.gov.cn/mfod/200812/t20081218_252201.html

198 Available at: http://www.gov.cn/zwqk/2013-12/09/content_2544880.htm

199 Available at: http://www.sdpc.gov.cn/zcfb/zcfbtz/201411/t20141104_642612.html

200 Available at: <http://cdm.ccchina.gov.cn/NewItemAll2.aspx>

201 Available at: <https://www.thegef.org/news/china-and-gef-25-years-collaboration-sustainable-development>

government has granted a total of 580 million CNY to provide physical and equipment assistance to small island countries, least developed countries, African countries, and other developing countries. China supports their participation in international negotiations, launches 10 low-carbon demonstration zones and 100 Mitigation and Adaptation Climate Change projects in these countries, and trains 1,000 experts and officials.²⁰²

From the domestic perspective, financing climate change lies under the framework of sustainable development and interacts closely with energy conservation and emissions reduction. In addition, China vigorously promotes the trade of Carbon Emissions Right. As of September 2016, the cumulative trading volume of China's seven pilot markets reached 120 million tons of carbon dioxide, with the transaction amount exceeding 3.2 billion CNY. In 2017, the pilot markets will be extended to the whole country.²⁰³

²⁰² Available at: <http://www.ccchina.gov.cn/Detail.aspx?newsId=64361>

²⁰³ Available at: <http://www.scio.gov.cn/34473/34515/Document/1514870/1514870.htm>

INVESTMENT POLICY AND FLOWS

Investment Policy and Flows

Institutional Arrangements and Governance

Government Authorities

There are two main ministries under the State Council that are involved in investment governance: the NDRC and the MOFCOM.

- **NDRC**

The NDRC is the leading ministry in overall investment issues: it formulates regulatory targets, policies, and measures concerning fixed asset investment. It also arranges government investment, guides non-governmental investment, and sets strategies for foreign capital utilisation and overseas investment.

Specifically, the NDRC is in charge of formulating and updating the “Catalogue of Investment Projects Subject to the Approval of the Government,” a list of investment project types which require permission from the government. The NDRC is also responsible for reviewing and approving the investments under this list, including those made by both SOEs and domestic and foreign private entities.

Under the NDRC, there are two departments specifically engaged in investment management: the Department of Fixed Asset Investment and the Department of Foreign Capital and Overseas Investment. The former focuses on domestic investment facilitation and supervision, and leads the investment liberalisation reform.

The latter focuses on the management of FDI and overseas investment, in collaboration with the MOFCOM.²⁰⁴ The NEA, a subordinate agency of the NDRC, is responsible for the management of energy-related investment projects and the coordination with both the Department of Fixed Asset Investment and the Department of Foreign Capital and Overseas Investment.²⁰⁵

- **MOFCOM**

The MOFCOM cooperates with the NDRC (the subordinate Department of Foreign Capital and Overseas Investment) on the management of FDI and overseas investment. For instance, the NDRC and the MOFCOM co-released the “Catalogue of Guiding Foreign Investment in Industry” and the “Catalogue of Priority Industries for Foreign Investment in Central and Western China” to govern and facilitate FDI in China.

Meanwhile, the MOFCOM and the NDRC take the lead in different sub-issues of investment: the NDRC guides the MOFCOM in developing the “Going Global Strategy” and managing the utilisation foreign investment. The MOFCOM, on the other hand, leads the NDRC in the negotiation of international investment treaties and the promotion of global economic cooperation. The MOFCOM also guides the development of the areas in which foreign investment is concentrated, such as state-level economic and technological development zones and border economic cooperation zones.²⁰⁶

Semi-official Bodies

The China Investment Promotion Agency (CIPA), which performs its duties under the leadership of the MOFCOM, serves as the investment facilitation office of China. It is responsible for

²⁰⁴ Available at: <http://www.ndrc.gov.cn/>

²⁰⁵ Available at: <http://www.nea.gov.cn/>

²⁰⁶ Available at: <http://www.mofcom.gov.cn/>

two-way investment promotion with regard to “Inviting in” (FDI in China) and “Going global” (outbound investment) in accordance with China’s economic strategies.²⁰⁷

CIPA also cooperates with international economic organisations, foreign investment promotion agencies, and business associations on behalf of the MOFCOM.²⁰⁸ CIPA is in charge of organizing national investment promotion activities, including the China International Fair of Investment & Trade and the participation of Chinese investors at international exhibitions.

The China Council for the Promotion of International Trade (CCPIT) is another national foreign trade and investment promotion agency. CCPIT represents domestic industries and commerce in the field of foreign trade, and formulates relevant policies, international commercial rules, and foreign trade negotiations. CCPIT is in charge of issuing certificates of origin for export products, providing intellectual property services²⁰⁹ and legal consulting services, and carrying out trade and maritime arbitration.

FDI Inflow in China

Investment Policy

The State Council issued the “Circular Concerning Measures on Further Opening Up and Actively Utilizing Foreign Investment” in January 2017 to guide investment inflow. It aims at relaxing market access restrictions and providing a free and equal environment for foreign investment. The Circular consists of 20 policy measures and are divided into the following categories:

First, China intends to reduce the restrictions on market access and increase its openness to investment. The Circular designated the NDRC and the MOFCOM to jointly revise the “Catalogue for the Guidance of Foreign Investment Industries.”²¹⁰ The revised Catalogue classifies industries into two main headings: 1) the Encouraged List and 2) the Negative List for Foreign Investment.

The Negative List identifies all the foreign investment projects that are subject to government restrictions or prohibitions. The investment proposals that are not on the list are granted free access to the market. A highlight of the revised Catalogue is that it loosens the restrictions on foreign investment particularly in the service, manufacturing, and mining sectors.²¹¹ The introduction of such a negative list system sets up clear and transparent rules for foreign investment.

Second, the Chinese government seeks to create a level playing field for both domestic enterprises and FIEs. This aspect of the Circular is guided by the “Made in China 2025” initiative, started in 2015.²¹² This initiative aims at comprehensively upgrading China’s industry and enhancing the quality and efficiency of manufacturing. Under this initiative, both the domestic enterprises and the FIEs in China will receive promotional measures on high-end manufacturing, intelligence manufacturing, green manufacturing etc. The government will also support FIEs to participate in China’s energy, transportation, water conservation, and environmental protection infrastructure projects.

207 https://www.revoly.com/topic/China%20Investment%20Promotion%20Agency&item_type=topic

208 *ibid.*

209 *These services include patent application, trade mark registration, litigation, and rights safeguarding*

210 Available at: http://www.ndrc.gov.cn/zcfb/zcfbl/201706/t20170628_852857.html

211 Available at: http://www.ndrc.gov.cn/zcfb/jd/201706/t20170628_852906.html

212 Available at: http://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm

Third, China is taking active measures to further attract FDI inflows. The Circular designates the NDRC and the MOFCOM to revise the “Catalogue of Priority Industries for Foreign Investment in Central and Western China” in 2017.²¹³ The revised Catalogue aims particularly at boosting investment in the less developed areas of central and western China by providing preferential treatments to foreign investors in these areas. The main changes include promoting new, clean, and high technology sub-sectors, such as green food processing, integrated circuits, etc.²¹⁴

In addition to the Circular, the Chinese government has also made efforts to increase the ease of doing business and the transparency of the investment framework in China. To promote the ease of doing business, the government revised the “Catalogue of Investment Projects Subject to Governmental Approval,” which largely reduced the number of foreign investment projects needing approval.

Now, only restricted investment projects with a total investment of \$300 million or more are obliged to acquire permission from the NDRC, while those below \$300 million are reviewed by local governments (this threshold was \$100 million in 2014). This measure also enhances the transparency of China’s investment framework, as the Catalogue provides investors with clear rules on the required procedure and documents for investing in China.

FDI Inflows in the Energy Sector

FDI is more restricted in the production and management of traditional fossil fuels. In China, almost no FIEs are engaged in coal mining; oil and gas extraction is only available in the form of cooperation with state oil companies. The low level of FDI inflows in energy reflects China’s intention to limit FDI in this nationally strategic sector.

Nonetheless, the energy sector has been gradually opening up to foreign investment, especially in the field of electricity generation. Along with decentralisation and economic growth, recent FDI enters larger coal-fired plants in China’s coal-rich regions. These foreign-funded power plants provide considerable help to efficiency improvement and technological innovation in the Chinese power industry.

Moreover, policies have been made to enhance the inter-connectivity between China and the global energy market. The “Circular On Several Measures Concerning the Expansion of Opening-Up and Active Use of Foreign Capital” issued in January 2017 proposes to eliminate the FDI restrictions for fuel ethanol production in the manufacturing industry, and loosen the restrictions on oil shale, oil sands, shale gas, and other unconventional resources in the mining industry.²¹⁵

In the future, China will guide more FDI to an identified set of Strategic and Newly Emerging Industries (SEIs) related to renewable energy, environmental technologies, and advanced equipment manufacturing. With the advancement of market decentralisation and deregulation, China is attracting more foreign enterprises to invest in the country’s energy sector.

Outward FDI

Investment Policy

China’s outward FDI has been guided by the “Go Global Strategy” announced in 2000 during the country’s 10th FYP. The Strategy aims at relaxing outward capital flow controls, and encouraging Chinese enterprises to invest in the global market. The current guiding principle of the Strategy

²¹³ Available at: http://www.ndrc.gov.cn/zcfb/zcfbl/201702/t20170217_838180.html

²¹⁴ Available at: http://www.ndrc.gov.cn/zcfb/zcfbl/201702/t20170217_838180.html

²¹⁵ Available at: http://www.gov.cn/zhengce/content/2017-01/17/content_5160624.htm

encourages both Chinese SOEs and private enterprises to invest abroad, upgrade their position within global value chains, and contribute to China's overseas investment diversity.²¹⁶

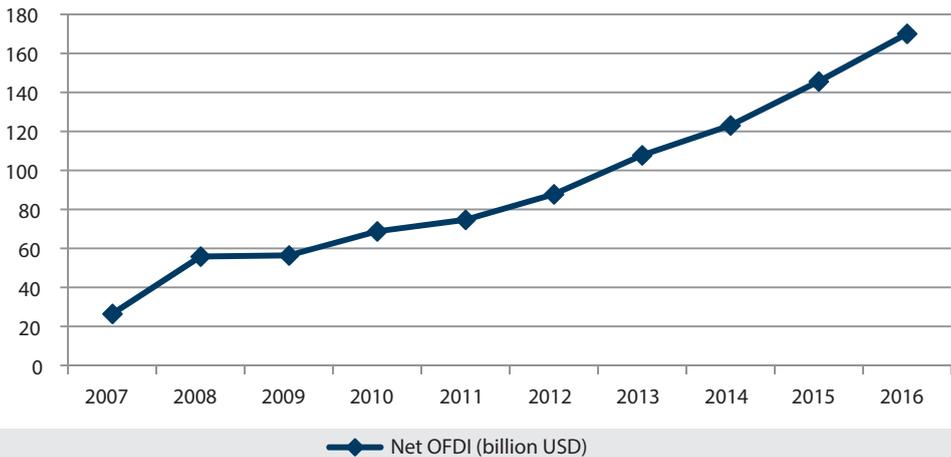
Two further practices under the Go Global Strategy are the Belt and Road Initiative launched in 2013 and the "Plan of Global Cooperation on Production Capacity" carried out in 2015.²¹⁷ The Belt and Road Initiative plays an essential role in guiding future Chinese OFDI through building and upgrading not only overland and maritime transport, but also energy and communications infrastructure along the Eurasia continent. The Belt and Road Initiative is driven by a strategic ambition to play an important role in international energy investment and improve the connectivity with neighbouring countries and remote production centres.

The "Plan of Global Cooperation on Production Capacity" encourages Chinese enterprises to increase output manufacturing capacity and facilitate domestic industrial upgrading. In addition, Chinese investors are encouraged to develop overseas processing and trade so as to promote Chinese products, services, and technologies, and to set up overseas R&D centres to support China's technological innovation and industrial restructuring.

Recent OFDI Trends

China's OFDI has been increasing significantly since the official announcement of the Go Global Strategy. By 2016, China's net OFDI reached 170 billion USD,²¹⁸ making it the second largest investor in the world after the US.²¹⁹ Below is a figure showing China's OFDI trends since 2007:

Graph 4.1 China's Net OFDI (billion USD) ²²⁰



In terms of sectors, China's OFDI structure has been optimized, as real economy and the service industry receive more attention. The services sector had the largest share of China's non-financial OFDI in 2015, accounting for about 25 percent of the total. Specifically, the share of China's overseas investment in information transit, software, and information technology

216 Available at: http://english.gov.cn/news/top_news/2016/04/11/content_281475325205328.htm

217 Available at: http://www.gov.cn/zhengce/content/2015-05/16/content_9771.htm

218 Available at: http://www.stats.gov.cn/tjsj/zxfb/201702/t20170228_1467424.html

219 Available at: http://unctad.org/en/PublicationsLibrary/wir2017_en.pdf

220 Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

rose from 4.9 percent in 2015 to 12 percent in 2016.²²¹ China's investment in manufacturing has also been growing, from 12.1 percent in 2015 to 18.3 percent of the country's total OFDI in 2016.²²² China's ODFI in the primary sector, on the other hand, only accounted for 9 percent of the national total in 2016.²²³

M&As have also been contributing to the structural adjustment and upgrading of China's overseas investment. As shown by the MOFCOM, China's total of 742 overseas M&A projects covered 18 industries in over 73 countries and regions, and hit a total actual transaction value of \$107.2 billion in 2016.²²⁴ The manufacturing and information sectors stood out, taking up 26.6 percent and 14.7 percent of the national total respectively.²²⁵ This increasing role of M&A in China's OFDI improves the country's position along the global value chain.

In terms of OFDI destinations, China's OFDI generally goes to developing countries more than to developed countries. An increasingly important destination of China's overseas investment is Africa, as China's FDI stock in this region increased almost threefold from 2000 to 2015, from 13 to 35 billion dollars. China sees Africa not only as an important origin of crucial natural resources, but also a rapidly expanding market for Chinese commodities. African countries, reciprocally, welcomes Chinese ODFI to create jobs, improve public infrastructure, boost international trade, and facilitate human development.

Yet, in recent years, investments and M&As targeting industrialized countries have been a leading pattern for Chinese investors' overseas operations. Europe, in particular, becomes a favourable destination of China's OFDI. In 2016, more than 35 billion euro worth of OFDI flew in to the EU, with an increase of 77 percent than that in 2015.²²⁶ In 2016, more than half of China's OFDI went to countries such as Germany and the UK, which had allowed China to acquire advanced technology and infrastructure assets in these countries.²²⁷

Outward FDI Trends in the Energy Sector

China has been actively engaging in several infrastructure constructions across all energy sectors in Asia, Europe, Africa and Latin America. Along with the development of the Go Global Strategy and the "Belt and Road" Initiative, China's OFDI in overseas energy exploitation and construction projects has been surging over the past decade. Oil SOEs were the first to invest abroad in order to acquire more oil and gas resources; such activities were observed in the Middle East, Africa, Central Asia, and Latin America, regardless of these regions' levels of political stability.

Nowadays, China has been increasingly investing in advanced energy technology and R&D projects around the world, in order to stimulate the country's adaptation of new technologies.²²⁸ China's share of investment in energy R&D in the world reached 20 percent in 2016, with an annual increase rate of 7 percent since 2012.²²⁹

Based on China's current energy situation and its future consumption expectations, the main focus of China's future OFDI will be the international cooperation in oil and gas, which includes resource exploration and cross-border transit network construction. Specifically, the

²²¹ *ibid.*

²²² Available at: <http://english.mofcom.gov.cn/article/newsrelease/policyreleasing/201701/20170102503092.shtml>

²²³ Available at: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

²²⁴ Available at: <http://english.mofcom.gov.cn/article/newsrelease/policyreleasing/201701/20170102503092.shtml>

²²⁵ Available at: <http://english.mofcom.gov.cn/article/newsrelease/policyreleasing/201701/20170102503092.shtml>

²²⁶ See *Record Flows and Growing Imbalances, Chinese Investment in Europe in 2016, Merics Papers on China*

²²⁷ *ibid.*

²²⁸ Available at: http://www.sdpc.gov.cn/zcfb/zcfbtz/201701/t20170117_835278.html

²²⁹ *ibid.*

construction of cross-border electricity transition channels and the upgrading of power grids have been on the cooperation agenda between China and its neighbouring countries. Power generation enterprises are also encouraged to participate in generation and grid projects in other regions, according to local conditions such as investment, construction, and operation.

In order to support SOEs in their quest for global presence in the international energy investments, the Chinese government has established the Silk Road Fund to provide necessary financing to the energy projects. Chinese investment banks have also been deeply engaged in financing some key projects and this trend will likely continue in the years to come.

FDI Treatment and Protection

FDI Treatment

Initially, China granted National Treatment to foreign investments only in the post-establishment phase. However, with the aim to integrate itself further into the world, China adopted in 2015 the management model of “Pre-establishment National Treatment (PENT) Plus a Negative List” for foreign investors in 4 pilot free-trade zones, namely Shanghai, Guangdong, Tianjin, and Fujian.²³⁰ The core idea of the PENT is to provide national treatment for foreign capital during the entry stage, which means that China will provide treatment for foreign investors that are no less favourable than that of domestic entities in the pre-establishment stage.²³¹ To ensure a healthy and secured environment for investment, the Negative List identifies the exceptions to the PENT, where foreign capital is restricted from entering the Chinese market. All the investment fields that are not on the negative list are accessible to foreign capital, and apply to the treatment same as domestic investors.

In August 2017, the State Council released the “Circular concerning Measures for Ensuring the Steady Growth of Foreign Investment”,²³² with the expectation to make its foreign investment environment “more law-based, internationalized and convenient. In this document, China claims to continue reducing market access restrictions for foreign capital, and roll out nationwide a negative list for foreign investment that has been tested in pilot free-trade zones as soon as possible.

According to the “Decision of the Standing Committee of the National People’s Congress on Amending Four Laws including the Law of the People’s Republic of China on Wholly Foreign-Owned Enterprises” validated on Oct. 1, 2016, China abolished the three-decade-long approval regime for the establishment of FIEs and adopted a much simplified record-filing system.

Since then, the Chinese authorities, notably the Ministry of Commerce, the National Development and Reform Commission and the State Administration of Industry and Commerce, have promulgated a number of rules and regulations to implement the new record-filing system. For example, in order to implement the 2016 NPC Decision, the MOFCOM promulgated the Provisional Measures for the Record-filing Administration on the Establishment and Alteration of Foreign Investment Enterprises (the “Provisional Measures”) on 8 October 2016, which went into effect on the same date. According to Art. 6 of the Provisional Measures, the following activities of an FIE shall fall under the legislation’s jurisdiction:

²³⁰ Available at: http://www.gov.cn/zhengce/content/2015-04/20/content_9627.htm

²³¹ Available at: http://www.chinadaily.com.cn/opinion/2015-03/20/content_19862635.htm

²³² Available at: http://www.gov.cn/zhengce/content/2017-08/16/content_5218057.htm

- the establishment of the FIE; and
- any subsequent changes of the FIE, including:
 - Change of the FIE's basic information, such as its name, registered address, term of operation, registered capital and total investment amount, legal representative, and ultimate controller of the FIE;
 - Change of the investor's basic information, such as its name, nationality, address, and source of capital;
 - Change of the FIE's shareholding structure;
 - Merger, division or termination of the FIE;
 - Mortgage, pledge or assignment of the property rights of a wholly foreign-owned enterprise;
 - An accelerated recovery of investment by a foreign investor of a Sino-foreign cooperative joint venture; and
 - An appointment of a third party to manage and operate a Sino-foreign cooperative joint venture.

According to an interpretation released by the MOFCOM on the same date as the Provisional Measures (the "Interpretation"), the new record-filing system will not apply to the following types of foreign investment:

- investment into a sector specifically reserved in the Negative List;
- an acquisition of a PRC domestic enterprise by a foreign investor; and
- strategic investment in a company listed in the PRC by a foreign investor.

As such, these three types of investment are still subject to the MOFCOM approval-based administrative system.

The newly amended "Catalogue for the Guidance of Foreign Investment Industries" published in June 2017 had already adopted the negative list of foreign investment access. Besides that, the foreign access restrictions in areas of service industry, manufacturing industry, and mining industry are relaxed.

Compensation of Expropriation

All kinds of property rights in China, whether they belong to the State or individuals, are protected under the country's Constitution and the Property Law.²³³ However, the law rules that for the preservation of public interest, the State may expropriate either domestic or foreign private property, but should make compensations under lawful procedures.²³⁴

The Property Law and the Law on State Compensation²³⁵ provide the compensation conditions and procedures in case of property rights being infringed by the State. The conditions include the illegal infliction of administrative sanctions (such as the imposition of fines and the revocation of licenses), the unlawful suspension of business activities, and the confiscation of properties. The government should also provide compensations if the properties are

²³³ Available at: http://www.gov.cn/flfg/2007-03/19/content_554452.htm

²³⁴ Available at: http://www.gov.cn/zhengce/2014-03/21/content_2643049.htm

²³⁵ Available at: http://www.gov.cn/banshi/2005-05/26/content_979.htm

requisitioned to meet urgent needs, such as rescuing and providing disaster relief.

Although China is undertaking more market oriented reforms, in terms of granting compensation for expropriation, it still follows a more traditional approach. Due to this, it does not follow the internationally recognized formulation of providing “prompt, adequate and effective” compensation based on the “market value” of the expropriated assets.²³⁶

In fact, China’s standard of compensation varies from treaty to treaty. For instance, in its BIT with the UK, China adopted a more general formula of providing “reasonable compensation” which was the real value of the expropriated investment immediately following the expropriation became public knowledge.²³⁷

However, in the China-Japan BIT, the compensation was set differently to reflect the restitutionary approach of compensation. Under this, the compensation payable was “such as to place the nationals and companies in the same financial position as that in which the nationals and companies would have been if its expropriation, nationalisation or any other measures the effects of which would be similar to expropriation or nationalisation had not been taken.”²³⁸

Dispute Resolution

The Chinese Arbitration Law²³⁹ was enacted on 1 September 1995, which embraced many of the fundamental principles of the Model Law on International Commercial Arbitration issued by the United Nations Commission on International Trade Law. The China International Economic and Trade Arbitration Commission (CIETAC) established by the State Council and under the auspices of the CCPIT, is the arbitral body that parties rely on the most for foreign-related disputes in China. There are also other arbitration commissions affiliated with local governments, for instance, the Beijing Arbitration Commission and the Shanghai Arbitration Commission.

China is also a member of the International Centre for the Settlement of Investment Disputes (ICSID) and has ratified the United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards. China has also signed 27 bilateral agreements on the recognition and enforcement of foreign court judgments.²⁴⁰ Moreover, domestic legislation provides arrangements for the recognition and enforcement of foreign arbitral awards. In the case of foreign judgments, however, the Civil Procedure Law²⁴¹ and the Arbitration Law²⁴² state that Chinese courts will first review the foreign judgments, China’s treaty obligations, reciprocity principles, basic principles of Chinese laws, state sovereignty, security, and social public interests, and will then make a verdict on the recognition of foreign court judgments.

236 K. Sauvant and L. Sachs, *The Effect of Treaties on Foreign Direct Investment: Bilateral Investment Treaties, Double Taxation Treaties, and Investment Flows* (2009).

237 UK-China BIT, Article 5.

238 Japan-PRC BIT, Annex para.2.

239 Available at: http://www.npc.gov.cn/wxzl/wxzl/2000-12/05/content_4624.htm

240 Available at: <https://www.state.gov/documents/organization/241728.pdf>

241 Available at: http://www.npc.gov.cn/wxzl/gongbao/2012-11/12/content_1745518.htm

242 Available at: http://www.npc.gov.cn/wxzl/wxzl/2000-12/05/content_4624.htm

DOMESTIC INVESTMENT LEGISLATION

Domestic Investment Legislation

Establishment of Investment

Chinese-foreign equity joint ventures, Chinese-foreign contractual joint ventures, and wholly foreign-owned enterprises are the three main forms of entities through which foreign investors can establish investment in China. In addition, Chinese-foreign cooperative exploitation is a form of foreign investment specifically for the energy sector.

Chinese-Foreign Equity Joint Ventures

Chinese-Foreign Equity Joint Ventures are formed with joint capital from both Chinese and foreign investors. The two parties of an equity joint venture operate collaboratively, and share the profits and losses in proportion to their respective shares in the registered capital.

According to the Chinese-Foreign Equity Joint Ventures Law,²⁴³ capital from the foreign party shall not be less than 25 percent of the total, while there is no minimum investment requirement for the Chinese partner. Partners of equity joint ventures can make equity capital contributions either in currency or non-currency properties. The non-currency properties include not only physical properties (buildings, machinery, and materials), but also non-physical properties (intellectual property rights, land occupancy right, but excluding labour).

As a limited liability company, an equity joint venture holds the status of a Chinese legal person and has the right to hire Chinese nationals, purchase land, and build its own buildings. Normally, the operation duration of an equity joint venture is between thirty and fifty years, depending on the specific contract. Unlimited operation duration may be approved in certain cases, especially those involving advanced technology transferring. Foreign investors can remit profits and other legitimate interests out of China or use them in reinvestment.

Chinese-Foreign Contractual Joint Ventures

Chinese-Foreign Contractual Joint Ventures are formed based on the conditions for cooperation between foreign and Chinese partners, in accordance with the Chinese-Foreign Contractual Joint Ventures Law.²⁴⁴ In contractual joint ventures, the foreign party generally provides all or most of the capital, technology, and key equipment, while the Chinese party provides land use rights, existing facilities, a certain amount of capital, and can obtain freely all the fixed assets of the joint venture upon the expiration of the contract.

Unlike equity joint ventures, there is no minimum foreign investment requirement to establish a contractual joint venture, and the contribution of a foreign investor can be in various forms, including labour and services. It is possible for the foreign party to withdraw in whole or in part its registered capital from the contractual joint venture during the operation period. If the foreign party wants to end the contract earlier than the indicated expiration date, it can apply to recoup its capital outlay in advance by enlarging its proportion in the distribution of earnings, or by applying favourable income tax from the financial and tax authorities, based on the mutual agreement of the Chinese and the foreign party.²⁴⁵

Wholly Foreign-Owned Enterprises

A wholly foreign-owned enterprise is comprised of one or more foreign investors and is subject

²⁴³ Available at: http://www.npc.gov.cn/npc/xinwen/2016-10/12/content_1999021.htm

²⁴⁴ Available at: http://www.npc.gov.cn/npc/xinwen/2016-09/06/content_1997112.htm

²⁴⁵ Available at: http://www.fdi.gov.cn/1800000121_41_43_0_7.html

to the Wholly Foreign-Owned Enterprises Law.²⁴⁶ The most common types of business for wholly foreign-owned enterprises include consulting, service, trading, wholesale and retailing, high technology, food & beverage, and manufacturing.

According to the Wholly Foreign-Owned Enterprises Law,²⁴⁷ business scope is one of the most important elements in wholly foreign-owned enterprise applications, as it needs to be defined upon the submission of an application, and the new enterprises can only conduct business within the approved/record-filing business scope stated on the business license. Any amendments to the business scope require further approval.

A wholly foreign-owned enterprise possesses the status of a Chinese legal person, and is considered as a limited liability company. This means that the liability of the foreign investor is limited to the amount of investment subscribed and contributed. However, upon approval, an enterprise may also take any other liability forms, and the liability of the foreign investor shall be dealt with in accordance with the related laws and regulations.

Chinese-Foreign Cooperative Exploitation

In addition to the three types of entities mentioned above, Chinese-foreign cooperative exploitation is a widely-adopted form of investment that benefits the international cooperative exploitation of energy resources. In accordance with the “Regulations on the Exploitation of Onshore Petroleum Resources in Cooperation with Foreign Enterprises”²⁴⁸ and the “Regulations on Exploitation of Offshore Petroleum Resources in Cooperation with Foreign Enterprises,”²⁴⁹ a Chinese company can sign a venture contract with a foreign company to conduct joint exploration of onshore and offshore petroleum resources.

Franchise is granted to Chinese-foreign cooperative exploitations in petroleum resources. For onshore petroleum resources, the licensed Chinese companies are CNPC and Sinopec; for offshore petroleum resources, the CNOOC is the only licensed Chinese company; for CBM, the licensed companies are CNPC, Sinopec, CNOOC, and Henan Coalbed Methane Corporation.

Unless otherwise prescribed by law or stipulated in the joint exploration contract, the foreign contractor shall provide capital for the exploration and shall bear all the risks along this process. When a commercial oil (gas) field is discovered, both parties shall jointly provide capital, and the foreign contractor shall take charge of the exploitation and production operations until the conditions are mature enough for the Chinese contractor to take over. The foreign contractor generally recovers its investment costs and makes profit by selling the petroleum it exploits and/or purchases, and by remitting its profits and other forms of lawful income back to its domestic market.

Establishment of Legal Entities

Basic Elements

The Company Law of China²⁵⁰ regulates the establishment, activities, and dissolution of all forms of companies. According to the Company Law and related regulations, the following basic elements are required for establishing a legal entity:

Name of the new company. Only Chinese names will be registered and considered as official.

²⁴⁶ Available at: http://www.npc.gov.cn/npc/xinwen/2016-09/06/content_1997114.htm

²⁴⁷ *ibid.*

²⁴⁸ Available at: http://www.gov.cn/zwgk/2011-10/10/content_1965561.htm

²⁴⁹ Available at: http://www.gov.cn/zwgk/2011-10/10/content_1965581.htm

²⁵⁰ Available at: http://www.fdi.gov.cn/1800000121_39_4814_0_7.html

The local Administration of Industry and Commercial verifies whether the chosen name is available for registration.

Business scope. The business scope of a company is a list of activities that are authorized by the government. It indicates the management requirements that a company has to follow. For example, the sub-catalogue of the “Catalogue for the Guidance of Foreign Investment Industries” (encouraged, restricted, or prohibited)²⁵¹ under which a company’s business activities fall determines the specific registration procedure of that company.

Registered capital. Registered capital is the amount of capital contributions paid by FIE shareholders. In 2014, the government amended the Company Law of China, under which the previous “paid-up capital registration system” was replaced by a new “subscribed capital subscription system.” This change means that investors, whether domestic or foreign, no longer have to pay up the registered capital during the early stage of investment establishment. Instead, shareholders have the discretion to decide the payment schedule of capital contributions. In addition, the minimum registered capital requirements for establishing enterprises in China are eliminated, unless specifically listed in other laws.

Articles of Association. The articles of association are the constitution of a company and the cornerstone of its operation. The articles of association are necessary not only for the initial registration, but also for affecting changes to the operation of the company, for instance, an increase of registered capital, a change of business scope or directors on the board, or the final liquidation. The content of the articles should at least cover the following elements: company name, registered address, scope of business, total amount of investment, form of the company, internal institutional arrangements, the legal representative responsible for acting on behalf of the company, principles and system of financial affairs, labour management, operating period, and procedures for amending the articles of association.

Registration Procedure

The current procedure of registering for legal entities includes having 1) a company name pre-approved by the local Administration for Industry and Commerce, 2) the approval or filed record needed to establish the company, 3) a business license issued by the local Administration for Industry and Commerce, and 4) post-establishment registrations.

Great progresses have been made recently in simplifying the business registration procedures in China. After a series of reforms between 2015 and 2016, China is now issuing “five-in-one business licenses,” which merge the previous industry and commercial administration license, the tax registration certificate, the organisation code certificate, the social security registration certificate, and the statistics registration certificate. Domestic and foreign investors can apply for their “five-in-one business licenses” at the State Administration for Industry and Commerce (SAIC) section of any local administrative service centre in China.

For the FIEs whose business activities are not listed on any of the negative lists, the registration procedure has been replaced by a simpler record-filling system, based on the “Interim Measures for the Record-filling Management on Establishment and Change of Foreign funded Enterprises”²⁵² issued by the MOFCOM on 8 October, 2016. This record-filling system has reduced more than 90 percent of the previously required paper materials, and the average processing time has been reduced to 3 working days.²⁵³

²⁵¹ Available at: http://www.ndrc.gov.cn/zcfb/zcfbl/201706/t20170628_852857.html

²⁵² Available at: <http://www.mofcom.gov.cn/article/b/f/201610/20161001404974.shtml>

²⁵³ Available at: http://news.xinhuanet.com/politics/2016-10/15/c_129323190.htm

Efforts to simplify the registration procedure of legal entities continue. The General Office of the State Council issued the “Instruction on Accelerating the Reform of Multi-Licenses Integration” in May 2017.²⁵⁴ The reform aims at combining all the licenses for business registration to establish a new system of “all-in-one business license and unified code.” The State Council has also been working on information sharing, so that different departments will have access to all kinds of data, which further simplifies the business registration procedures.

Land and Real Estate

Right of Land Use

Under the Chinese Constitution²⁵⁵ and the Land Administration Law²⁵⁶ of China, urban land is owned by the State, which has the right to exploitation and granting authorisation of the right of land use to an assignee. On the other hand, land in the rural and suburban areas is collectively owned by the individuals and the State. Individual farmers enjoy long-term lease rights of the land, but are not allowed to sell it.

FIEs may acquire the right of land use for a certain period, according to the Land Administration Law and the “Interim Regulations Concerning the Assignment and Transfer of the Right to the Use of State-owned Land in Urban Areas.”²⁵⁷ There are two ways for foreign investors to acquire land-use rights in China.

First, foreign investors can acquire land-use rights directly from the government by one of the three means: agreement with the government, bidding, or auction. When signing a contract with the government, the assignee will be granted land-use rights over a specified plot of state-owned land for a fixed period and a specific purpose. The rights can be transferred, subleased, or pledged, as agreed in the contract. However, all the required registration processes, as well as any changes regarding the purpose, term, or development plan of the land, must be approved by the land authorities.

Second, foreign investors can also purchase land-use rights from existing land users in the market, provided that these rights’ premium has been paid in full, that the certificate has been obtained, and that the land is used for a purpose agreed in the grant contract.²⁵⁸ The Company Law allows land-use rights to be transferred to build up joint ventures with foreign investors, and the previous land-use right holders will have shares in the ventures’ capital.

Currently, the maximum legal length of land-use rights is 70 years for residential purposes, 50 years for industry, education, technology, culture, hygiene, sports, comprehensive functions or other uses, and 40 years for commerce, tourism, and entertainment. These rules equally apply to all kinds of domestic and foreign investors. Assignees of land-use rights can apply for renewal when their land-use rights expire, unless the conditions for renewal are otherwise defined in the contract or is in conflict with city planning.

Real Estate

Unlike Chinese citizens and entities, foreign investors are prohibited from directly owning real estate for commercial use, as stated in the 2006 “Opinions on Regulating the Entry and Administration of Foreign Investment into the Real Estate Market.”²⁵⁹ Foreign individuals and

254 Available at: http://www.gov.cn/zhengce/content/2017-05/12/content_5193122.htm

255 Available at: http://www.gov.cn/zhengce/2014-03/21/content_2643049.htm

256 Available at: http://www.gov.cn/banshi/2005-05/26/content_989.htm

257 Available at: http://www.mlr.gov.cn/zwgk/flfg/tdglflfg/200601/t20060119_72175.htm

258 Available at: http://www.gov.cn/flfg/2007-08/30/content_732595.htm

259 The document was co-released by the Ministry of Construction, State Administration of Foreign Exchange, and four other Ministries in 2006. More

entities are only allowed to purchase properties for self-use, such as establishing representative offices in China. Yet, all the real estate purchases with purposes other than self-use must be made through a Chinese commercial entity or an FIE established in China.

The rapid rise of real estate prices in China resulted in stricter limitations on the purchase of real estate by foreign investors. Starting 2010, an FIE could only buy one non-residential house for business use in the city where its office was located; overseas individuals could only purchase one house for self-use.²⁶⁰

In 2015, because of a supply surplus in the Chinese real estate market, the government loosened the restrictions on real estate purchases by issuing the “Circular of Adjusting the Regulation on the Entry and Administration of Foreign Investment into the Real Estate Market.”²⁶¹ According to the Circular, overseas individuals are no longer limited to buying only one house, although the purchase still has to be for self-use.²⁶² For foreign real estate enterprises, particularly, the restrictions on the proportion of registered capital in the total amount of investment are abolished.

Competition

Anti-Monopoly

China promulgated the Anti-Monopoly Law²⁶³ and the Law against Unfair Competition²⁶⁴ to safeguard fair and market competition, protect consumer and public interests, and improve overall economic efficiency.

According to the Anti-Monopoly Law, monopolistic conducts are divided into three types: First, the signing of monopolistic agreements among market players is prohibited. Second, all the behaviours of market dominance abuse are prohibited, such as 1) selling products at a price that is either much higher than the market price or below the cost of production; 2) selling products only to certain consumers or apply differential treatments without justifiable reasons. Third, any market concentration that has or is likely to have the effect of restricting competition must be notified to anti-monopoly authorities and will be subjected to anti-trust review.

The Anti-Monopoly Law covers all types of market players. However, it allows exceptions for the SOEs that mainly operate in strategic industries concerning national security, major infrastructures, and important mineral resources. In such cases, the central government supervises and regulates these SOEs’ operations and controls the prices of the goods and services they supply.

The State Council has set up an Anti-monopoly Committee to implement anti-monopoly rules and policies. There are three main organs under this Committee: the Anti-monopoly Bureau of the MOFCOM is in charge of conducting anti-trust reviews, examining the effect of suspicious operations on market competition, and approving or rejecting these operations based on the reviews. The Price Supervision and Anti-Monopoly Bureau of the NDRC deals with specific

information available at: <http://www.mofcom.gov.cn/aarticle/b/g/200608/20060802848409.html>

²⁶⁰ This change was indicated in the “Guidelines on Further Regulating the Administration over Purchase of Real Estate by Foreign Individuals and Entities” co-issued by the State Administration of Foreign Exchange and the Ministry of Housing and Urban-Rural Development (MoHURD) in 2010. More information available at: http://www.mohurd.gov.cn/zcfg/jsbwj_0/jsbwjfdcy/201102/t20110218_202615.html

²⁶¹ The document was co-issued by the MoHURD and other five Ministries in 2015. More information available at: http://www.mohurd.gov.cn/wjfb/201508/t20150828_224060.html

²⁶² Exceptions to this rule apply in cities that have restrictions on both domestic and foreign purchasers.

²⁶³ Available at: http://www.gov.cn/flfg/2007-08/30/content_732591.htm

²⁶⁴ Available at: http://www.gov.cn/banshi/2005-08/31/content_68766.htm

issues related to price violation. The Anti-Monopoly and Anti-Unfair Competition Enforcement Bureau of the SAIC deals with (1) the surveillance of monopoly agreements, (2) the abuse of market dominance, and (3) the abuse of administrative power.

Taxation

Major Taxes

Various taxes apply to FIEs and foreign individuals in China. The applicable taxes include corporate income tax, individual income tax, value-added tax, consumption tax, stamp duty, deed tax, vehicle and vessel usage license plate tax, real estate tax, and tariff.

Corporate Income Tax. The Corporate Income Tax Law²⁶⁵ of China stipulates that both domestic enterprises and FIEs shall pay corporate income taxes at a rate of 25 percent. Overseas enterprises that engage in business operations in China shall also pay corporate income taxes, but at a rate of 20 percent.

Individual income tax. In accordance with the Individual Income Tax Law of China,²⁶⁶ an individual who has a domicile within the territory of China or who has no domicile but has stayed within the territory of China for more than one consecutive year shall pay individual income tax for the income obtained in and/or outside the territory of China. Those who do not meet any of these conditions but earn income in China shall pay individual income tax for the income obtained within the territory of China.

Value-Added Tax. Starting 2016, all the entities and individuals engaged in selling or importing goods or providing services within the territory of China are taxpayers of value-added taxes. For general taxpayers, the tax rate is 17 percent for tangible personal property, 11 percent for the transportation, construction, real estate industries, and 6 percent for modern service industries and other industries. For small taxpayers, the rate is 3 percent for most of the situations.²⁶⁷

Consumption Tax. In accordance with the "Provisional Regulations on Consumption Tax of China",²⁶⁸ all the entities and individuals engaging in the production, processing, and importation of 14 types of goods within the territory of China should pay consumption tax. These 14 types include tobacco, alcohol, cosmetics, jewellery, fireworks, gasoline, diesel, tire, motor, and automobile, each of which is taxed at a specific rate that is either determined by quota or by price.

Stamp Duty. In accordance with the "Provisional Regulations on Stamp Duty of China",²⁶⁹ all the entities and individuals involved in purchase and sale, contracting, property leasing, goods transportation, loans, property insurance, and certification of authorisation shall pay stamp duty.²⁷⁰ The tax rate of stamp duty ranges from 0.03 percent to 1 percent, depending on the types of documents on which the stamp duty is levied.²⁷¹

Deed Tax. In accordance with the "Provisional Regulations on Deed Tax of China",²⁷² all the entities and individuals who are recipients of land or housing ownership transfer within the

265 Available at: http://www.gov.cn/jfjg/2007-03/19/content_554243.htm

266 Available at: http://www.gov.cn/jrzq/2011-07/01/content_1897224.htm

267 Available at: http://szs.mof.gov.cn/zhengwuxinxi/zhengcefabu/201603/t20160324_1922515.html

268 Available at: http://www.gov.cn/zwgk/2008-11/14/content_1149528.htm

269 Available at: http://www.gov.cn/banshi/2005-08/19/content_24831.htm

270 Available at: <http://img.project.fdi.gov.cn/21/1800000121/File/201305/201305240231595813297.pdf>

271 Available at: http://www.gov.cn/banshi/2005-08/19/content_24831.htm

272 Available at: http://www.gov.cn/banshi/2005-08/19/content_24856.htm

territory of China are subject to deed tax. The rate of deed tax ranges from 3 percent to 5 percent.

Vehicle and Vessel Tax. In accordance with the Vehicle and Vessel Tax Law of China,²⁷³ the owners of vehicles and vessels shall pay vehicle and vessel tax. Specific tax standards can be found in the Schedule of Vehicle and Vessel Tax Items and Amounts.²⁷⁴

Real Estate Tax. In accordance with the “Provisional Regulations on Real Estate Tax of China”, FIEs or foreigners who possess real estate properties within the territory of China shall pay real estate tax. For real estate purchases, the tax rate is 1.2 percent of the original value minus 10-30 percent of deduction. For real estate rentals, the tax rate is 12 percent of the rent.²⁷⁵

Import and Export Tariff. In accordance with the Regulations of the People’s Republic of China on Import and Export Duties,²⁷⁶ all the goods are permitted to be imported into or exported out of China shall be subject to customs duties on imports or exports, unless otherwise illustrated by the State Council. The specific tariff items, tariff nomenclature, and tariff rates are specified in the “Customs Import and Export Tariffs of China²⁷⁷” and the Import Tariff Rates of China for Entry Articles²⁷⁸ formulated by the State Council.

Tax Incentives

FIEs refer to the enterprises where foreign investment contributes to more than 25 percent of the enterprises’ total amount of capital. Since 1 January 2008, the unified Enterprise Income Tax Law had been implemented and FIEs no longer enjoyed the more favourable tax treatment in general terms. Since 1 January 2007, the “Interim Regulations of the People’s Republic of China on the Tax for Use of Land in Urban Areas” had provided clearly that it applied to FIEs. Since 1 December 2010, FIEs had not been exempted from urban maintenance and construction tax and educational surcharges. However, at the industrial and regional levels, under special conditions and circumstances prescribed in relevant statutory documents, FIEs enjoy different types of favourable tax treatments.

The measures of corporate tax and value-added tax for FIEs are subject to two elements: industrial preference and regional preference. The industrial preferences of China’s taxation system are summarized in the table below:

²⁷³ Available at: http://www.gov.cn/flfg/2011-02/25/content_1857450.htm

²⁷⁴ Available at: http://www.gov.cn/flfg/2011-12/09/content_2018019.htm

²⁷⁵ Available at: http://www.gov.cn/banshi/2005-08/19/content_24823.htm

²⁷⁶ Available at: http://www.gov.cn/test/2005-07/06/content_12585.htm

²⁷⁷ Available at: <http://www.customs.gov.cn/publish/portal0/tab67735/>

²⁷⁸ Available at: <http://www.customs.gov.cn/publish/portal0/tab65598/info793342.htm>

Table 5.1 Industrial Preferences of China's Taxation System

Category	Measure
High-technology enterprises	Enjoy a preferential value-added tax rate of 15 percent
Small and low-profit enterprises	Enjoy a preferential value-added tax rate of 20 percent
Enterprises whose revenue is generated from public infrastructure projects supported by the State	Enjoy a two-year value-added tax exemption and a three-year tax reduction
Enterprises engaging in agriculture, forestry, animal husbandry, and fishery industries	Enjoy a reduction or exemption from corporate income tax
Incomes from equipment procurement, investment in environmental protection, energy and water conservation and safe production, and expenditures for R&D	Not considered the taxable income
Incomes from technological transfer	Exempted from or enjoying a 50-percent reduction from corporate income tax, depending on the amount of taxable income
Imported equipment directly used for scientific research, experiments, and education	Exempted from value-added tax
Goods exported by the FIEs	Enjoy a value-added tax exemption or refund management, unless otherwise indicated
Self-use imported equipment for foreign invested projects involving technology transfer	Exempted from tariffs and import value-added tax (Except for those listed in the Catalogue of Import Commodities for Foreign Investment Projects with no Tax Exemption. ²⁷⁹)

Source: summarized based on open resources.

Geographically, China has established FTZs, Special Economic Zones, State-level New Areas, State-level Economic & Technological Development Zones, Border Economic Cooperation Zones, and High-Tech Industrial Development Zones, in which more favourable taxation measures are adopted to attract foreign investment. For instance, newly established high-technology enterprises in Shanghai Pudong New Area enjoy a two-year tax exemption and a three-year tax reduction. China also encourages foreign enterprises to invest in the central and western areas of the country. FIEs located in this region will enjoy a preferential tax rate of 15 percent, effective from 1 January 2011 to 31 December, 2020.

Additionally, China has officially signed Double Taxation Avoidance Agreements (DTAAs) with 102 countries and regions, 98 of which have entered into force. China has also signed a taxation arrangement regarding Hong Kong SAR, Macao SAR, and Taiwan.²⁸⁰

Transfer of Technology

China encourages importing advanced technologies and exporting well-developed industrialized technologies. However, the State may restrict or prohibit the import or export of technologies for reasons listed in the Foreign Trade Law of China.²⁸¹ These reasons include

²⁷⁹ Available at: <http://www.customs.gov.cn/publish/portal0/tab65603/info761268.htm>

²⁸⁰ Available at: <http://www.chinatax.gov.cn/n810341/n810770/index.html>

²⁸¹ Available at: http://www.gov.cn/jfjg/2005-06/27/content_9851.htm

the maintenance of state security and public interest, the protection of human health or the environment, the development of a particular domestic industry, the promotion of China's international financial position, and the obedience of international treaties. Additionally, for technologies related to fission and fusion, the State may adopt necessary measures regarding import or export restriction.

The MOFCOM and its local counterparts are the authorities on technology import and export. According to the Foreign Trade Law, the MOFCOM has the right to decide on the temporary restriction or prohibition of the import or export of specific technologies other than the ones listed in the catalogues ("Catalogue of Technology Restricted or Prohibited For Import"²⁸² and "Catalogue of Technology Restricted or Prohibited For Export"²⁸³). Enterprises that want to import or export any restricted technology must submit an application to the MOFCOM for review. If approved, the two parties will then sign a technology transfer contract and submit it to the MOFCOM. When the technology transfer is approved, the MOFCOM issues the technology import or export license.

Transfer of Payments

Foreign Exchange Registration

FIEs and other foreign-owned entities within the Chinese territory do not need pre-approval to open foreign exchange accounts, according to the "Circular on Further Simplifying and Improving the Management of Direct Investment Foreign Exchange"²⁸⁴ issued by the State Administration of Foreign Exchange (SAFE) in 2015. Instead, they are simply required to register with qualified foreign exchange banks. These banks will then conduct foreign exchange account opening and payment transfers with their client after registration, in accordance with the "Operational Guidelines for Direct Investment Foreign Exchange." FIEs must report their foreign exchange balance every year.

The CNY is the only IMF reserve that is not fully convertible. To further strengthen Chinese CNY and facilitate international capital flows, China has adopted a policy of proactively and steadily pushing forward the CNY convertibility for capital account transactions. In 2016, SAFE issued the "Circular on Reforming and Regulating the Foreign Exchange Settlement Administration" to liberalise foreign debt and foreign exchange income settlement.²⁸⁵

The foreign debt of enterprises, excluding financial institutions, can be settled based on business needs. The proportion of capital account foreign exchange income settlement based on willingness is tentatively set at 100 percent, and the SAFE may adjust the proportion according to the balance of payments in a timely manner. In terms of transferability, all the CNY that belongs to the FIEs, can be transferred abroad by purchasing foreign exchange from banks after liquidation and taxation.²⁸⁶

Intellectual Property Rights

The evolution of China's intellectual property rights regime has been greatly influenced by international laws, treaties, and organisations. China's accession to the World Intellectual

²⁸² Available at: <http://www.mofcom.gov.cn/aarticle/b/g/200712/20071205295018.html>

²⁸³ Available at: http://www.gov.cn/jfjg/2008-09/25/content_1105522.htm

²⁸⁴ Available at: http://www.safe.gov.cn/resources/wcm/pages/wps/wcm/connect/safe_web_store/safe_web_zcfg/zbxmwhgl/zjtzwghl/node_zcfg_zbxm_kjtz_store/ecb2730047782024852fa73b4795588d/

²⁸⁵ Available at: http://www.safe.gov.cn/wps/wcm/connect/safe_web_store/safe_web_zcfg/zbxmwhgl/zbxmzh/node_zcfg_zbxm_zbzh/1c8409804d241f1687cd8fe39639345e?digest=14mv1os6gonaicjsshzhw

²⁸⁶ Available at: http://www.gov.cn/zwgk/2008-08/06/content_1066085.htm

Property Organisation (WIPO) in 1983 incentivized the country to establish the very first intellectual property laws. In addition, China complied with the minimum standards of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) in 2001 in order to acquire membership at the WTO, and has since then been making efforts to strengthen its legal system for intellectual property rights protection accordingly.

National Intellectual Property Strategy

In 2008, the State Council issued the “Outline of National Intellectual Property Strategy”, aiming at standardizing China’s intellectual property application process, improving the management system, and strengthening the protection of intellectual property rights. The main targeted areas were patents, trademarks, and copyrights.

According to the Outline, State Intellectual Property Office (SIPO) is responsible for examining foreign and domestic patent applications, as well as coordinating domestic and foreign issues involving copyrights, trademarks, and patents.²⁸⁷ Foreigners who apply for intellectual property rights enjoy equal treatments as Chinese nationals, as long as China and these foreigners’ home countries are both signatories to international treaties on intellectual property rights protection.

Intellectual property rights enforcement is carried out through administrative and judicial means simultaneously. Administrative actions are taken by the responsible governmental bodies such as the SIPO. Judicial actions are conducted by the Supreme People’s Court, Supreme People’s Procuratorate, and Ministry of Public Security, who work collaboratively to intervene in infringement and counterfeiting activities. Below is a table summarizing the administrative and judicial frameworks of intellectual property protection in China:

Table 5.2 China’s Intellectual Legal System

Type of Intellectual Property	Responsible Government Department	Law
Patents	State Patent Office	<ul style="list-style-type: none"> • Patent Law of the People’s Republic of China (Promulgated in 1984 and most recently amended in 2008) • Guidance for Patent Examination (2010) • Implementing Rules of the Patent Law of the People’s Republic of China (2010)
Trademarks	Trademark Office of the SAIC	<ul style="list-style-type: none"> • Trademark Law of the People’s Republic of China (Promulgated in 1982 and most recently amended in 2013) • Implementing Regulations of the Trademark Law of the People’s Republic of China (Issued in 2002 and amended in 2014)
Copyrights	National Copyright Administration	<ul style="list-style-type: none"> • Copyright Law of the People’s Republic of China (Promulgated in 1990 and most recently amended in 2010) • Provisions on the Implementation of the International Copyright Treaty

Patents

The Patent Law of China²⁸⁸ ensures the protection of patent on inventions, utility models, and industrial design. The State Patent Office and its local counterparts are in charge of the nationwide patent administration, which includes processing patent applications and granting patents. The required documents and procedures for patent application are listed in the Guidance for Patent Examination.²⁸⁹ Patents are granted for 20 years from the date of filing for inventions, and 10 years for utility models and industrial designs.

The Patent Law is enforced by the Implementing Rules of the Patent Law.²⁹⁰ If the substantial technology of a foreign invention or utility model is generated within the Chinese territory or is the result of major national R&D projects, then the patent application process for that foreign invention or utility model will be subject to a preliminary national-interest clearance and a confidentiality examination. The patents obtained from major national projects must first be non-exclusively licensed within the territory of mainland China, and their licensing and transferring to foreign parties are regulated by the Regulations on the Administration of Technology Import and Export.²⁹¹

Trademarks

The Trademark Law of China²⁹² and its implementing rules provide protection to trademark right holders. Trademarks are protected for ten years and are renewable for another ten years. Trademark registration under the Chinese authority is the prerequisite of such protection. In recent years, China's judicial and administrative bodies have made great efforts to protect trademark exclusive rights within their respective authorities, and have settled a number of cases with positive influence both domestically and abroad.

The State Trademark Office under the SAIC is in charge of trademark administration and registration applications. The Trademark Review and Adjudication Board, also under the SAIC, are responsible for settling trademark disputes and reviewing decisions made by the State Trademark Office.

Applicants in China may submit their applications for trademark registration either themselves or through an agent designated by the SAIC, while foreign applicants who do not have residence or business permits in China must register their trademarks through an agent. Foreign applicants must file applications on the basis of reciprocity between their country of origin and China, which means that both countries should be parties of an international treaty or a bilateral agreement.

Copyrights

The Copyright Law of China²⁹³ and the "Provisions on the Implementation of the International Copyright Treaty"²⁹⁴ (in compliance with the International Copyright Treaty) together establish the basic copyright protection system in China. The Law defines the term "work" as literature, art, natural sciences, social sciences, engineering, and technology in a variety of forms including written, oral, musical, photographic, designs, and computer software. Copyrights

288 Available at: http://www.sipo.gov.cn/zcfg/flfg/zl/fl/201509/t20150902_1169595.html

289 Available at: <http://www.sipo.gov.cn/zhfwp/zlsqzn/sczn2010eng.pdf>

290 Available at: http://www.scipo.gov.cn/zcfg/fljzcfg/201504/t20150422_15458.html

291 Available at: http://www.gov.cn/gongbao/content/2011/content_1860867.htm

292 Available at: http://www.sipo.gov.cn/zcfg/flfg/sb/fl/201509/t20150902_1169602.html

293 Available at: http://www.gov.cn/flfg/2010-02/26/content_1544458.htm

294 Available at: http://www.sipo.gov.cn/zcfg/flfg/bq/xzfg/201509/t20150902_1169628.html

are defined as personal and property rights such as publication, authorship, integrity (the right to protect a work against distortion and mutilation), rental, exhibition, and communication through information networks.

According to the Copyright Law, Chinese citizens and legal entities enjoy automatic copyright protection on their works, whether published or not. Works that are first published within the Chinese territory by foreigners will also enjoy copyright protection. Other foreigners' works published abroad will enjoy copyright protection if China has an agreement with the country of origin, or if both China and that country are members of an international treaty. The term of copyright protection for natural persons includes their lifetime plus 50 years. The term of protection for the work of a legal entity is 50 years. The National Copyright Administration and its local counterparts are responsible for copyright registration and enforcement.

Employment of Key Personnel

Work Permit System for Foreigners

On 1 April, 2017, China introduced a unified work permit system for foreigners who intend to work in China. This system classifies foreign employees into three categories and applies differentiated screening measures accordingly.

First, foreign scientists, international entrepreneurs, and technology pioneers with high-end skills (category A) enjoy preferential treatments when applying for work permits in China. Second, foreign professionals will be granted work permits if their skills are in special needs and/or can contribute to China's economic development (category B). Third, the issuance of work permits to ordinary foreign employees with low-end skills (category C) will be strictly controlled.²⁹⁵ According to the "Management Rules of Foreign Employees in China,"²⁹⁶ there is no maximum percentage of foreign employees a company can hire, including employees at the senior management level.

The State Administration of Foreign Experts Affairs (SAFEA) and its local counterparts are responsible for issuing work permits for foreigners coming to China. The document "Regulations on the Management of Employment of Foreigners in China"²⁹⁷ provides detailed procedures and requirements for foreigners and employers to apply for work permits, and the application shall be conducted online from the Service System for Foreigners Working in China operated by the SAFEA.²⁹⁸

²⁹⁵ Available at: <http://www.safea.gov.cn/content.shtml?id=12749113>

²⁹⁶ Available at: http://www.mohrss.gov.cn/SYrlzyhshbzb/zcfg/fffg/gz/201704/t20170413_269433.html

²⁹⁷ Available at: http://www.mohrss.gov.cn/SYrlzyhshbzb/zcfg/fffg/gz/201704/t20170413_269433.html

²⁹⁸ Available at: <http://fwp.safea.gov.cn/>

Annex 1 Free Trade Agreements (FTAs) and China²⁹⁹

No.	Parties	Status	Date of signature	Date of entry into force
1	China-ASEAN FTA	Signed and In Effect	1992-01-28	1993-01-01
2	China-ASEAN FTA Upgrade	Signed and In Effect	2004-11-29	2005-07-01
3	China-Australia FTA	Signed and In Effect	2015-06-17	2015-12-20
4	China-Chile FTA	Signed and In Effect	2005-11-18	2006-10-01
5	China-Costa Rica FTA	Signed and In Effect	2010-04-08	2011-08-01
6	China-Georgia FTA	Signed but not yet In Effect	2017-05-13	
7	China-Iceland FTA	Signed and In Effect	2013-04-15	2014-07-02
8	China-New Zealand FTA	Signed and In Effect	2008-04-07	2008-10-01
9	China-Pakistan FTA	Signed and In Effect	2006-11-24	2007-07-01
10	China-Peru FTA	Signed and In Effect	2009-04-28	2010-03-01
11	China-Singapore FTA	Signed and In Effect	2008-10-23	2009-01-01
12	China-South Korea FTA	Signed and In Effect	2015-06-01	2015-12-20
13	China-Switzerland FTA	Signed and In Effect	2014-04-29	2014-07-01
14	China-Chile FTA Upgrade	Negotiations launched		
15	China-GCC (Gulf Cooperation Council) FTA	Negotiations launched		
16	China-Israel FTA	Negotiations launched		
17	China-Japan-Korea FTA	Negotiations launched		
18	China-Maldives FTA	Negotiations launched		
19	China-New Zealand FTA Upgrade	Negotiations launched		
20	China-Norway FTA	Negotiations launched		
21	China-Pakistan FTA Phase 2	Negotiations launched		
22	China-Sri Lanka FTA	Negotiations launched		
23	China-Singapore FTA Upgrade	Negotiations launched		
24	Regional Comprehensive Economic Partnership (RCEP)	Negotiations launched		
25	China - Bangladesh FTA	Study launched		
26	China - Colombia FTA	Study launched		
27	China - Canada FTA	Study launched		
28	China - Fiji FTA	Study launched		
29	China - Mauritius FTA	Study launched		
30	China - Mongolia FTA	Study launched		
31	China - Moldova FTA	Study launched		
32	China - Nepal FTA	Study launched		
33	China - Papua New Guinea FTA	Study launched		
34	China - Peru FTA Upgrade	Study launched		
35	China - Swiss FTA Upgrade	Study launched		

²⁹⁹ Available at: <https://aric.adb.org/fta-country>, site visited in May 2017

Annex 2 Bilateral Investment Treaties (BITs) and China³⁰⁰

No.	Parties	Status	Date of signature	Date of entry into force
1	Albania	In force	13/02/1993	01/09/1995
2	Algeria	In force	17/10/1996	28/01/2003
3	Argentina	In force	05/11/1992	01/08/1994
4	Armenia	In force	04/07/1992	18/03/1995
5	Australia	In force	11/07/1988	11/07/1988
6	Austria	In force	12/09/1985	11/10/1986
7	Azerbaijan	In force	08/03/1994	01/04/1995
8	Bahamas	Signed	04/09/2009	
9	Bahrain	In force	17/06/1999	27/04/2000
10	Bangladesh	In force	12/09/1996	25/03/1997
11	Barbados	In force	20/07/1998	01/10/1999
12	Belarus	In force	11/01/1993	14/01/1995
13	Benin	Signed	18/02/2004	
14	BLEU (Belgium-Luxembourg Economic Union)	Terminated; Replaced by new treaty	04/06/1984	05/10/1986
15	BLEU (Belgium-Luxembourg Economic Union)	In force	06/06/2005	01/12/2009
16	Bolivia, Plurinational State of	In force	08/05/1992	01/09/1996
17	Bosnia and Herzegovina	In force	26/06/2002	01/01/2005
18	Botswana	Signed	12/06/2000	
19	Brunei Darussalam	Signed	17/11/2000	
20	Bulgaria	In force	27/06/1989	21/08/1994
21	Cabo Verde	In force	21/04/1998	01/01/2001
22	Cambodia	In force	19/07/1996	01/02/2000
23	Cameroon	In force	10/09/1997	24/07/2014
24	Canada	In force	09/09/2012	01/10/2014
25	Chad	Signed	26/04/2010	
26	Chile	In force	23/03/1994	01/08/1995
27	Colombia	In force	22/11/2008	02/07/2013
28	Congo, Democratic Republic of the	Signed	18/12/1997	
29	Congo, Democratic Republic of the	Signed	11/08/2011	
30	Congo	In force	20/03/2000	01/07/2015
31	Costa Rica	Signed	24/10/2007	
32	Côte d'Ivoire	Signed	30/09/2002	
33	Croatia	In force	07/06/1993	01/07/1994

³⁰⁰ Available at: <http://investmentpolicyhub.unctad.org/IIA/CountryBits/42#iialnnerMenu>, site visited in May 2017

No.	Parties	Status	Date of signature	Date of entry into force
34	Cuba	In force	24/04/1995	01/08/1996
35	Cyprus	In force	15/01/2001	29/04/2002
36	Czech Republic	Terminated; Replaced by new treaty	04/12/1991	01/12/1992
37	Czech Republic	In force	08/12/2005	01/09/2006
38	Denmark	In force	29/04/1985	29/04/1985
39	Djibouti	Signed	18/08/2003	
40	Ecuador	In force	21/03/1994	01/07/1997
41	Egypt	In force	21/04/1994	01/04/1996
42	Equatorial Guinea	In force	20/10/2005	15/11/2006
43	Estonia	In force	02/09/1993	01/06/1994
44	Ethiopia	In force	11/05/1998	01/05/2000
45	Finland	In force	15/11/2004	15/11/2006
46	Finland	Terminated; Replaced by new treaty	04/09/1984	26/01/1986
47	France	Terminated; Replaced by new treaty	30/05/1984	19/03/1985
48	France	In force	26/11/2007	20/08/2010
49	Gabon	In force	09/05/1997	16/02/2009
50	Georgia	In force	03/06/1993	01/03/1995
51	Germany	In force	01/12/2003	11/11/2005
52	Germany	Terminated; Replaced by new treaty	07/10/1983	18/03/1985
53	Ghana	In force	12/10/1989	22/11/1990
54	Greece	In force	25/06/1992	21/12/1993
55	Guinea	Signed	18/11/2005	
56	Guyana	In force	27/03/2003	26/10/2004
57	Hungary	In force	29/05/1991	01/04/1993
58	Iceland	In force	31/03/1994	01/03/1997
59	India	In force	21/11/2006	01/08/2007
60	Indonesia	Terminated; Unilaterally denounced	18/11/1994	01/04/1995
61	Iran, Islamic Republic of	In force	01/06/2000	01/07/2005
62	Israel	In force	10/04/1995	13/01/2009
63	Italy	In force	28/01/1985	28/08/1987
64	Jamaica	In force	26/10/1994	01/04/1996
65	Japan	In force	27/08/1988	14/05/1989
66	Jordan	Signed	15/11/2001	
67	Kazakhstan	In force	10/08/1992	13/08/1994

No.	Parties	Status	Date of signature	Date of entry into force
68	Kenya	Signed	16/07/2001	
69	Korea, Dem. People's Rep. of	In force	22/03/2005	01/10/2005
70	Korea, Republic of	Terminated; Replaced by new treaty	30/09/1992	04/12/1992
71	Korea, Republic of	In force	07/09/2007	01/12/2007
72	Kuwait	In force	23/11/1985	24/12/1986
73	Kyrgyzstan	In force	14/05/1992	08/09/1995
74	Lao People's Democratic Republic	In force	31/01/1993	01/06/1993
75	Latvia	In force	15/04/2004	01/02/2006
76	Lebanon	In force	13/06/1996	10/07/1997
77	Libya	Signed	04/08/2010	
78	Lithuania	In force	08/11/1993	01/06/1994
79	Macedonia, The former Yugoslav Republic of	In force	09/06/1997	01/11/1997
80	Madagascar	In force	21/11/2005	01/07/2007
81	Malaysia	In force	21/11/1988	31/03/1990
82	Mali	In force	12/02/2009	16/07/2009
83	Malta	In force	22/02/2009	01/04/2009
84	Mauritius	In force	04/05/1996	08/06/1997
85	Mexico	In force	11/07/2008	06/06/2009
86	Moldova, Republic of	In force	06/11/1992	01/03/1995
87	Mongolia	In force	25/08/1991	01/11/1993
88	Morocco	In force	27/03/1995	27/11/1999
89	Mozambique	In force	10/07/2001	26/02/2002
90	Myanmar	In force	12/12/2001	21/05/2002
91	Namibia	Signed	17/11/2005	
92	Netherlands	In force	26/11/2001	01/08/2004
93	Netherlands	Terminated; Replaced by new treaty	17/06/1985	01/02/1987
94	New Zealand	In force	22/11/1988	25/03/1989
95	Nigeria	Terminated; Replaced by new treaty	12/05/1997	
96	Nigeria	In force	27/08/2001	18/02/2010
97	Norway	In force	21/11/1984	10/07/1985
98	Oman	In force	18/03/1995	01/08/1995
99	Pakistan	In force	12/02/1989	30/09/1990
100	Papua New Guinea	In force	12/04/1991	12/02/1993
101	Peru	In force	09/06/1994	01/02/1995
102	Philippines	In force	20/07/1992	08/09/1995

No.	Parties	Status	Date of signature	Date of entry into force
103	Poland	In force	07/06/1988	08/01/1989
104	Portugal	Terminated; Replaced by new treaty	03/02/1992	01/12/1992
105	Portugal	In force	09/12/2005	26/07/2008
106	Qatar	In force	09/04/1999	01/04/2000
107	Romania	In force	12/07/1994	01/09/1995
108	Russian Federation	Terminated; Replaced by new treaty	21/07/1990	26/07/1991
109	Russian Federation	In force	09/11/2006	01/05/2009
110	Saudi Arabia	In force	29/02/1996	01/05/1997
111	Serbia	In force	18/12/1995	13/09/1996
112	Seychelles	Signed	10/02/2007	
113	Sierra Leone	Signed	16/05/2001	
114	Singapore	In force	21/11/1985	07/02/1986
115	Slovakia	In force	04/12/1991	01/12/1992
116	Slovenia	In force	13/09/1993	01/01/1995
117	South Africa	In force	30/12/1997	01/04/1998
118	Spain	Terminated; Replaced by new treaty	06/02/1992	01/05/1993
119	Spain	In force	14/11/2005	01/07/2008
120	Sri Lanka	In force	13/03/1986	25/03/1987
121	Sudan	In force	30/05/1997	01/07/1998
122	Sweden	In force	29/03/1982	29/03/1982
123	Switzerland	Terminated; Replaced by new treaty	12/11/1986	18/03/1987
124	Switzerland	In force	27/01/2009	13/04/2010
125	Syrian Arab Republic	In force	09/12/1996	01/11/2001
126	Tajikistan	In force	09/03/1993	20/01/1994
127	Tanzania, United Republic of	In force	24/03/2013	17/04/2014
128	Thailand	In force	12/03/1985	13/12/1985
129	Trinidad and Tobago	In force	22/07/2002	07/12/2004
130	Tunisia	In force	21/06/2004	01/07/2006
131	Turkey	In force	13/11/1990	20/08/1994
132	Turkey	Signed	29/07/2015	
133	Turkmenistan	In force	21/11/1992	04/06/1994
134	Uganda	Signed	27/05/2004	
135	Ukraine	In force	31/10/1992	29/05/1993
136	United Arab Emirates	In force	01/07/1993	28/09/1994
137	United Kingdom	In force	15/05/1986	15/05/1986
138	Uruguay	In force	02/12/1993	01/12/1997

No.	Parties	Status	Date of signature	Date of entry into force
139	Uzbekistan	Terminated; Replaced by new treaty	13/03/1992	12/04/1994
140	Uzbekistan	In force	19/04/2011	01/09/2011
141	Vanuatu	Signed	07/04/2006	
142	Viet Nam	In force	02/12/1992	01/09/1993
143	Yemen	In force	16/02/1998	10/04/2002
144	Zambia	Signed	21/06/1996	
145	Zimbabwe	In force	21/05/1996	01/03/1998

Annex 3 Cooperation between China and international energy organisations

Entities	Remark
World Energy Council (WEC)	<ul style="list-style-type: none"> • Membership started from 1983
International Atomic Energy Agency (IAEA)	<ul style="list-style-type: none"> • Membership started from 1984 • China sent a permanent delegation
Joint Organisation Data Initiative (JODI)	<ul style="list-style-type: none"> • China is a founding member
International Energy Forum (IEF)	<ul style="list-style-type: none"> • China is a founding member and permanent IEF executive member • The current Secretary-General of IEF is a Chinese citizen
International Frameworks of Nuclear Energy Cooperation (IFNEC)	<ul style="list-style-type: none"> • China is a founding member • China posts a Vice Chair in the Steering Group
International Energy Agency (IEA)	<ul style="list-style-type: none"> • Cooperation relationship started from 1996, and China became an Association country in 2015 • NEA and other Chinese stakeholders send seconded experts to IEA consecutively
Energy Charter (EC)	<ul style="list-style-type: none"> • Invited Observership started from 2001 • China signed the International Energy Charter and became an observer in 2015 • The NEA and other Chinese stakeholders send seconded experts to Energy Charter Secretariat consecutively
International Renewable Energy Agency (IRENA)	<ul style="list-style-type: none"> • Membership started from 2013 • China and IRENA Jointly organized two International Forum on Energy Transition in Suzhou, China, in 2015 and 2016
Organisation of the Petroleum Exporting Countries (OPEC)	<ul style="list-style-type: none"> • China is a dialogue partner
International Partnership for Energy Efficiency Cooperation (IPEEC)	<ul style="list-style-type: none"> • China is a member • China serves as vice chair of both IPEEC Policy Committee and Executive Committee

Source: Energy Charter Secretariat, based on public sources

Annex 4 Energy Cooperation under comprehensive multilateral frameworks

Entities	Remark
APEC	<ul style="list-style-type: none"> • China joined the APEC energy working group (EWG) in 1991 • Chinese Taipei and Hong Kong are also member economies of APEC EWG • The NEA and other Chinese stakeholders send seconded experts to Asia Pacific Energy Research Centre (APERC) consecutively • China hosted the APEC Energy Ministerial Meeting in Beijing in September, 2014, and at the same time, the APEC Sustainable Energy Centre (APSEC) was established in Tianjin
UNFCCC	<ul style="list-style-type: none"> • China signed the Convention in 1992 • China participates in all the conferences, and has played an active and constructive role in the international addressing climate change negotiation • As the first developing country promising to put a cap on CO₂ emissions, China has made key contributions to the successful outcome at COP21 held in Paris in 2015, and has ratified the Paris Agreement in 2016
G20	<ul style="list-style-type: none"> • Chinese President Xi Jinping proposed that the G20 should build a partnership in energy co-operation on a strategic height of improving global economic governance, to nurture a free and open global energy market, and to jointly maintain stability of the energy market during the G20 summit in 2014 • China has actively participated in G20 sustainability energy work group meetings • China successfully hosted the G20 energy ministerial meeting in 2016
BRICS	<ul style="list-style-type: none"> • China hosted the 2nd BRICS energy ministerial meeting in 2017
ASEAN+3	<ul style="list-style-type: none"> • China has actively participated in the annual ASEAN+3 energy ministerial meetings
SCO	<ul style="list-style-type: none"> • Chinese President Xi Jinping proposed to establish the SCO Energy Club during the SCO summit in 2013
China-Arab States Cooperation Forum	<ul style="list-style-type: none"> • China hosted the 5th Sino-Arab Energy Cooperation Conference in 2016
China-EU summit	<ul style="list-style-type: none"> • The EU-China Energy Roadmap was introduced in 2016 • A implementation plan for 2017-2018 of the Roadmap was carried out in the 7th EU-China Energy dialogue in 2017

Source: Energy Charter Secretariat, based on open sources



CHINA INVESTMENT REPORT

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