

# China's Role in the Transition to a New International Energy Order\*

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DOI: 10.21827/5a86a7f890cb0

## Keywords

INTERNATIONAL ENERGY ORDER TRANSITION; NEW INTERNATIONAL ENERGY ORDER; CONTEMPORARY INTERNATIONAL LAW; CHINA

## Abstract

With the shift of energy production centres and oil consumption markets the international energy order has been changing, indicating four trends: the Arctic region and the international seabed area will become new energy sources; the exploitation of unconventional energy sources - a new focus; and the rulemaking right in the energy market - a new battlefield. Contemporary international law promotes, regulates, and safeguards the transition to a new international energy order, in which China should make efforts to shift its role from a passive recipient to an active innovator of international energy rules; from an onlooker to an active participant in international energy affairs; and from a receiver to a contributor of international energy public goods.

## I. Introduction

The evolution of the international energy order has undergone four stages: the first stage covers the period from the Industrial Revolution, when humans learned to use coal, oil and other fossil fuels, to the late 19<sup>th</sup> century, which can be regarded as its infancy period; the second stage is from the beginning of the 20<sup>th</sup> century to the early 1970s, which was dominated by western multinational oil companies; the third stage was relates to the years from the late 1970s to the end of the 20<sup>th</sup> century, which was characterized by the competing coexistence of oil-producing states and oil consuming states; the fourth stage was from the beginning of the 21<sup>st</sup> century until now, which has been a transition period to a new international energy order.

On October 24, 2012, "Energy Development Policies and Objectives", Part II of "China's Energy Policy (2012)" white paper issued by China's State Council Information Office, for the first time puts forward the need to 'promote the establishment of a new international energy order.' What has happened, so that it can be achieved and how has its transformation been influenced by the contemporary international law? What should China do in this transition period? All these questions are of practical significance to China's energy security. This paper consists of five parts including an introduction: Part

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\* This article is sponsored by the Key Public Biding Project of China National Social Science Foundation entitled "The New Energy Laws and Policies of the Developed Countries and the Strategic Choice of China" (Project No. 09&ZD048).

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II analyses new changes to the international energy order; Part III prospects the trends of its development; Part IV probes into the functions of international law in the transition to a new international energy order and Part V redefines China's role in its establishment.

## II. New changes in the international energy order

In recent years, the international energy order features the following changes:

### II.1. Shift of World's Energy Production Centre

Since World War II, the Middle East has been the centre of the world's energy production. However, with the progress of exploration technology, '[t]he outline of a new world oil map is emerging, and it is centred not on the Middle East but on the Western Hemisphere,'<sup>1</sup> including shale oil in America, oil sands in Canada, offshore oil in Central America, and pre-salt oil in Brazil. The International Energy Agency (IEA) pointed out in its "World Energy Outlook 2012" that, as far as state-of-the-art technology is concerned, the world's most abundant recoverable reserves of petroleum resources are not in the Middle East (1.2 trillion barrels), but in North America (2.2 trillion barrels, of which 1.9 trillion barrels are non-conventional energy resources).

Take the United States as an example; driven by upstream technologies, its unconventional oil and gas resources including shale oil and shale gas, exploited using a hydraulic fracturing method, will have increased its liquid fuel production to 11.4 million barrels per day during 2013, ranking second only to Saudi Arabia's 11.6 million barrels per day; by 2017 the United States will overtake Saudi Arabia as the world's largest oil producer; by 2030 the federation will become a net oil exporter and by 2035 it will achieve energy self-sufficiency.<sup>2</sup> In addition, by 2015, the United States will surpass Russia to become the world's largest natural gas producer.<sup>3</sup> According to the U.S. Energy Information Administration, its production of 10.13 million barrels daily oil was ranked third in the world in 2011 (after Saudi Arabia's 11.15 million barrels and Russia's 10.22 million barrels). In 2012, it surged 7% to 10.9 million barrels daily.<sup>4</sup> As the U.S. energy economist Daniel Yergin has anticipated: «[t]he new energy axis runs from Alberta,

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<sup>1</sup> Washington Post, Yergin, D., *Oil's New World Order*, 28 October 2011, available online at <articles.washingtonpost.com/2011-10-28/opinions/35277291\_1\_energy-policy-hemispheric-energy-oil-sands> (accessed 8 February 2014).

<sup>2</sup> International Energy Agency (IEA), *World Energy Outlook 2012*, available online at <worldenergyoutlook.org/publications/weo-2012/> (accessed 8 February 2014).

<sup>3</sup> It is worth noting that the annual Munich Security Conference (MSC) in February 2013, with its participants primarily from Europe and the US, featured a panel on an unusual subject - "The American Oil and Gas Bonanza: The Changing Geopolitics of Energy". US Special Envoy and Coordinator for International Energy Affairs Carlos Pascual described "the US internal energy revolution": a 25 percent increase in natural gas production, which should push down US gas prices, and enough oil output to reduce oil imports from 60 percent to 40 percent of consumption, with an additional 10 percent increase projected. Pascual projected that the US will be able to import *all* of its energy needs from within the America by 2030. See Al Jazeera, Slaughter, A.-M., "The Coming Atlantic Century", 24 February 2013, available online at <aljazeera.com/indepth/opinion/2013/02/2013224132644386955.html> (accessed 8 February 2014).

<sup>4</sup> US Energy Information Administration, *International Energy Statistics (Total Oil Supply)*, available online at <eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=53&aid=1> (accessed 8 February 2014).

Canada, down through North Dakota and South Texas, past a major new discovery off the coast of French Guyana to huge offshore oil deposits found near Brazil.»<sup>5</sup>

## II.2. Shift of World Oil Consumption Markets

‘Energy demand barely rises in OECD countries, although there is a pronounced shift away from oil, coal (and, in some countries, nuclear) towards natural gas and renewables.’<sup>6</sup> With the westward shift of the world’s energy production center, the energy consumption centre is also shifting from developed countries to the Asia-Pacific region, especially to China and India. ‘This accelerates the switch in direction of international oil trade towards Asia, putting a focus on the security of the strategic routes that bring Middle East oil to Asian markets.’<sup>7</sup> In the last 20 years, the rapid economic development in this region has demanded increasing oil and gas supplies. The Asia-Pacific region’s oil demand has increased from 10% to 25% of the world’s total oil consumption.

Take China as an example; its oil imports from Saudi Arabia in December 2009 reached a record high level of 1.2 million barrels per day; while at the same time, Saudi Arabia’s crude oil export to the United States, which has been the most important importer of Saudi oil, dropped below one million barrels per day for the first time in twenty years.<sup>8</sup> China has replaced the US as Saudi Arabia’s largest oil importer.<sup>9</sup> In addition, the IEA also predicts that, from now to 2035, global energy demands will grow by more than one third, 60% of which will come from China, India, and the Middle East, with India replacing Japan in 2020 to become the world’s third largest oil importer.

## II.3. Rapid Growth of New Energy

Given the shortage of traditional fossil energy, environmental deterioration, and the urgency to address climate change, new energy growth has gained increasing momentum in recent years. 119 countries had formulated/set renewable energy development goals or stimulus plans by 2011.<sup>10</sup> It’s worth mentioning that the oil-producing countries in the Middle East have also begun to pursue energy diversification with an emphasis on new energy. For example, the UAE government launched the “MASDAR Action Plan” and “Integrated Energy Strategy 2030” in 2006 to increase its investment in the infrastructure construction, education, scientific research and technological development of new energy

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<sup>5</sup> Washington Post Official, Yergin, D., *Oil's New World Order*, 28 October 2011, available online at <articles.washingtonpost.com/2011-10-28/opinions/35277291\_1\_energy-policy-hemispheric-energy-oil-sands> (accessed 8 February 2014).

<sup>6</sup> IEA, *World Energy Outlook 2012*, available online at <www.worldenergyoutlook.org> (accessed 8 February 2014).

<sup>7</sup> *Ibid.*

<sup>8</sup> Guobao, Z., “The World’s Energy Strategy Pattern Will Accelerate Adjustment”, *China Development Observation*, Special Issue, 2012 54.

<sup>9</sup> US net oil imports dropped to 5.98m barrels a day in December 2012, and in the same month, China’s net oil imports surged to 6.12m b/d. China has overtaken the US as the world’s leading net oil importer for the first time, and it’s predicted that by the end of 2013, or the early 2014, China will overtake the US on an annual basis. Financial Times, Blas, J., “China Overtakes U.S. as World’s Top Oil Importer”, (March 4, 2013), available online at <cs.com.cn/english/ei/201303/t20130305\_3883798.html> (accessed 11 October 2013).

<sup>10</sup> Liangfu, Z., “China will replace the U.S. to guard the Strait of Hormuz? - Changing international energy pattern”, *World Affairs*, No.24, 2012, 20.

industry, and it's anticipated that Dubai would achieve the conversion from fossil fuel energy to ecological energy in 2030.<sup>11</sup>

It should be noted that, although Barack Obama and Mitt Romney proposed different energy policies in the US presidential election debate in October 2012, they both claimed that the United States needed energy independence. Obama's policy philosophy was to boost clean energy, for which he had approved \$90 billion in investment to stimulate its development sources and limit or even ban high polluting coal. This is a real green revolution: in his first term, wind power generating capacity doubled, and solar capacity increased six-fold.<sup>12</sup>

#### **II.4. Reduction of OPEC's Influence**

Established in 1960, the Organization of the Petroleum Exporting Countries (OPEC) was the most influential organisation of oil-producing countries. OPEC has dominated the international oil market for more than fifty years. However, due to the expansion of non-OPEC oil producing countries including Russia and Kazakhstan in the world oil market, as well as its inefficient coordination, OPEC's control of international oil price has been greatly weakened.

According to the IEA's statistics, the organisation accounted for 55.5% of world oil production in 1973, but dropped to 42% in 2012. In addition, the oil production of non-OPEC countries will increase in a sustainable manner: because of the rapid growth of unconventional energy, especially - of American light tight oil and Canadian oil sands as well as Brazilian deepwater oil, the share of non-OPEC oil production will increase from less than forty nine million barrels per day in 2011 to more than fifty three million barrels per day in 2015, which will last until the mid-2020s, and then fall to fifty million barrels per day by 2035.<sup>13</sup>

#### **II.5. Complexity and Volatility of the International Energy Market**

First of all, endless geopolitical battles for energy will increase the turbulences of the international energy market. On the one hand, the chaos and instability in African and in the Middle Eastern countries such as Libya, Syria, Iraq and Iran have an adverse effect on international energy market. On the other, the debates over the transit of Russian Natural Gas through the territory of Ukraine, the friction with respect to energy transit in the Persian Gulf, as well as the oil and gas dispute between Sudan and South Sudan, etc. are potential dangers for the international energy market.

Second, driven by the new wave of nationalisation, national oil companies have undergone rapid development, consequently, the monopoly of oil-producing countries on domestic oil markets has been gradually strengthened. Statistics indicate that 85% (excluding China) of the world's proven oil and gas reserves in the twentieth century were controlled by large multinational oil companies; except for 14% controlled by the

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<sup>11</sup> Yishan, X., Dezhao, C., *High Coverage of China's Energy and Climate Diplomacy*, World Affairs Press, 2012, 56.

<sup>12</sup> Xinhua, T., "Campaign President Really Believes "Completely Independent" Energy Policy?", *World Affairs*, No. 21, 2012, 7.

<sup>13</sup> IEA, *World Energy Outlook 2012*, available online at <[www.worldenergyoutlook.org/publications/weo-2012/](http://www.worldenergyoutlook.org/publications/weo-2012/)> (accessed 8 February 2014).

former Soviet Union, only 1% of total energy was directly controlled by individual countries; however, the 40 countries with the largest oil reserve have gained 55% of the total governmental revenue through their cooperation with foreign countries in 2002, and up to 85% in 2007.<sup>14</sup> Third, with the diversification of energy market subjects, the oil derivatives market has become an integral part of the international oil market.

## II.6. Adjustment of Energy Strategies

Major countries and regions have accelerated steps aiming at adjusting their energy strategies in order to meet growing energy demands, address climate change and adapt to changing energy pattern. For example, the United States issued a blueprint for its future energy security, entitled by launching the “Green” and “New” energy policy. Meanwhile, the US House of Representatives adopted the *American Clean Energy and Security Act 2009*. Britain unveiled in succession *The UK Low Carbon Transition Plan: National Strategy for Climate and Energy 2009*, *UK Renewable Energy Strategy 2009* and the *UK Energy Act 2010*. The European Parliament adopted the *EU Third Energy Reform Plan* (which included three regulations and two directives) in 2009; the European Commission also released in succession “*Energy 2020 - A Strategy for Competitive, Sustainable and Secure Energy*”<sup>15</sup> in November 2010 and “*Energy Roadmap 2050*”<sup>16</sup> in December 2011. In 2010 Japan published “*Strategic Energy Plan of Japan.*” in 2010 and so on, all of which have attracted worldwide attention.

## III. Developing trends of the international energy order

Based on the above changes, the international energy order has shown the following trends:

### III.1. The Arctic region and the international seabed area will become new energy sources.

Energy resources in the Arctic are abundant. It is estimated that their potential recoverable oil reserves are 100 - 200 billion barrels;<sup>17</sup> natural gas reserves are fifty to eighty trillion cubic meters, hence the designation of “the Middle East at the end of the earth.”<sup>18</sup> That’s why in recent years many countries have invariably turned their eyes to the North Pole. For example, in September 2007, Britain claimed that it had sovereignty

<sup>14</sup> Yuanhua, Y., “Profound Changes of World Energy Pattern”, *China Maritime*, No. 9, 2010, 21.

<sup>15</sup> European Commission, COM(2010) 639 final, Brussels, (10 November 2010), available online at <eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0639:EN:HTML:NOT> (accessed 8 February 2014). The European Commission has proposed the “20:20:20 objective”: greenhouse gas emissions in 2020 will decrease 20% compared to 1990, energy efficiency will increase 20%, and new energy will account 20% of total energy production.

<sup>16</sup> European Commission, Communication From the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions *Energy Roadmap 2050* (COM/2011/0885 Final), available online at <eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011DC0885:EN:NOT> (accessed 8 February 2014).

<sup>17</sup> One estimate suggests that 400 billion barrels of oil may be found in the Arctic oceans. Botkin, D. B., *Powering the Future: A Scientist's Guide to Energy Independence*, Financial Times Prentice Hall, 2010, 30.

<sup>18</sup> Zewei, Y., *International Law*, 2<sup>nd</sup> ed., Higher Education Press, 2012, 169.

over a portion of the continental shelf of the Atlantic Ocean near the North Pole, trying to get energy exploitation rights near the Rockall Island, which has been disputed by Britain, Ireland, Denmark and Iceland. In 2009 Russia developed the “Russian Federation’s Policy for the Arctic to 2020”; in 2010 the Russian Security Council introduced its Arctic Strategy, announcing the Arctic will become Russia’s strategic energy base in 2016.<sup>19</sup> Furthermore, the United States, France, Germany, Denmark, Sweden, Canada and other countries have already carried out expeditions in the Arctic, and strengthened their presence there. It is thus clear that the resource competition in that area is gearing up.

The International Seabed Area (Area), accounting for about 65% of the marine area, is rich in energy reserves, such as methane hydrates (combustible ice), etc.<sup>20</sup> Not until recent years has the resource exploration and development activities in the Area been on agenda. First, the International Seabed Authority adopted the “Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area”<sup>21</sup> in 2000 and “Regulations for Prospecting and Exploration for Polymetallic Sulphides”<sup>22</sup> in 2010. These two regulations have paved the way for the relevant prospecting and exploration of resources. Meanwhile, the International Seabed Authority has signed polymetallic nodules exploration contracts with 8 contractors including the China Ocean Mineral Resources Research and Development Association (COMRA), and approved two applications for polymetallic nodules exploration made by Nauru Ocean Resources Inc. and Tonga Offshore Mining co., LTD, and two applications for polymetallic sulphides exploration made by COMRA and the Russian Federation Ministry of Natural Resources and Environment Ministry.<sup>23</sup>

Second, the Legal and Technical Commission of the International Seabed Authority drafted the “Regulations on prospecting and exploration for cobalt-rich ferromanganese crusts in the Area,”<sup>24</sup> and submitted it to the Council for approval in 2009, which was

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<sup>19</sup> In December 2001, Russia made an official submission into the UN Commission on the Limits of the Continental Shelf for the establishment of new outer limits of the continental shelf of Russia beyond the previous 200 mile zone (370 km) which is within the Russian Arctic sector.

<sup>20</sup> Japan has extracted natural “ice” gas from methane hydrates beneath the sea off its coasts in a technological coup, opening up a super-resource that could meet the country’s gas needs for the next century and radically change the world’s energy outlook. According to Japan’s state-owned oil and gas company JOGMEC, the immediate discoveries in Japan’s Eastern Tankai Trough are thought to hold forty trillion cubic feet of methane, equal to eleven years gas imports, which will change the world energy map. Telegraph Official, Pritchard, A., “Japan cracks seabed ‘ice gas’ in dramatic leap for global energy”, 12 March 2013, available online at <telegraph.co.uk/finance/newsbysector/energy/9924836/Japan-cracks-seabed-ice-gas-in-dramatic-leap-for-global-energy.html> (accessed 8 February 2014).

<sup>21</sup> International Seabed Authority, Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, 13 July 2000, available online at <www.isa.org.jm/files/documents/EN/Regs/MiningCode.pdf> (accessed 12 October 2013).

<sup>22</sup> Decision of the Assembly of the International Seabed Authority Relating to the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area (7 May 2010) ISBA/16/A/12, available online at <isa.org.jm/files/documents/EN/16Sess/Assembly/ISBA-16A-12.pdf> (accessed 8 February 2014).

<sup>23</sup> Zewei, Y., *International Law (Second Edition)*, Higher Education Press, 2012, 208.

<sup>24</sup> International Seabed Authority Council, Regulations on Prospecting and Exploration for Cobalt-Rich Ferromanganese Crusts in the Area (29 November 2009) ISBA/16/C/WP.2, available online at <isa.org.jm/files/documents/EN/16Sess/Council/ISBA-16C-WP2.pdf> (accessed 8 February 2014).

adopted by the eighteenth session of the International Seabed Authority in July 2012.<sup>25</sup> The International Seabed Authority has also begun preparatory work on draft mining regulations. Third, in February 2011 the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea delivered its advisory opinion on “Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area,”<sup>26</sup> which will promote resource exploration and development in the Area and provide a legal basis for the International Seabed Authority and sponsoring states to assume their responsibilities.<sup>27</sup>

### **III.2. The exploitation of unconventional energy will become a new direction.**

The concept of unconventional energy corresponds to that of conventional energy, or traditional energy, which refers to ‘energy which has been produced on large-scales and has been widely utilized for a long historical period and with certain conditions of science and technologies, such as coal, oil and natural gas.’<sup>28</sup> The potential reserves of unconventional energy could be huge. According to statistics, the geological reserves of extra-heavy oil in the world are 294.5 billion tons; those of oil sands are 456 billion tons; those of shale oil - about 689.3 billion tonnes; coal bed gas reserves - 260 trillion cubic meters; shale gas resources - 419 trillion cubic meters, and methane hydrate reserves may be 3,000 trillion cubic meters.<sup>29</sup>

Also, some scholars have estimated that there are six trillion barrels of oil in oil shale and oil sands, which is twice as much as proven oil reserve.<sup>30</sup> Shale oil and oil sands are located in North America. It can be expected that with scientific advances, and technology breakthroughs, production of unconventional energy, such as oil sands in Canada, extra-heavy oil in Venezuela, shale oil and gas in the US as well as methane hydrate in the international seabed area, will increase by a large margin, thus playing a substantial role in future energy supply.

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<sup>25</sup> International Seabed Authority, Decision of the Council relating to the Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area, 26 July 2012, ISBA 18/C/23, available online at <[isa.org.jm/files/documents/EN/18Sess/Council/ISBA-18C-23.pdf](http://isa.org.jm/files/documents/EN/18Sess/Council/ISBA-18C-23.pdf)> (accessed 8 February 2014).

<sup>26</sup> Seabed Dispute Chamber of the International Tribunal for the Law of the Sea, “Responsibilities and obligations of States Sponsoring persons and Entities with respect to activities in the Area” (Request for Advisory Opinion submitted to the Seabed Disputes Chamber), Advisory Opinion, available online at <[www.itlos.org/fileadmin/itlos/documents/cases/case\\_no\\_17/adv\\_op\\_010211.pdf](http://www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/adv_op_010211.pdf)> (accessed 8 February 2014).

<sup>27</sup> Gao, Z., ed., *China's Ocean Development Report*, China Institute for Marine Development Strategies, Ocean Press, 2011, 78.

<sup>28</sup> Tao, L., et al., ed., *Energy Utilization and Environmental Protection - Thinking of Energy Structure*, Metallurgical Industry Press, 2011, 31.

<sup>29</sup> World Energy Council, *2010 Survey of Energy Resources*, World Energy Council, London, 2010, available online at <[www.worldenergy.org/documents/ser\\_2010\\_report\\_1.pdf](http://www.worldenergy.org/documents/ser_2010_report_1.pdf)> (accessed 8 February 2014).

<sup>30</sup> Botkin, D. B., *Powering the Future: A Scientist's Guide to Energy Independence*, Financial Times Prentice Hall, 2010, 29.

### III.3. Climate change and low-carbonisation will become a new agenda for energy.

British scholar Anthony Giddens pointed out in his *The Politics of Climate Change* that tackling climate change problems would become the main topic in the regional and global arena during the next twenty years.<sup>31</sup> It is acknowledged that the rising tendency of carbon dioxide and other greenhouse gases is extremely hard to stop, which requires that the international community to take strong measures to curb this trend. The international community has reached a consensus in this regard. Consider for example; the “Copenhagen Agreement;” “Cancun Agreement;” the launch of the Green Climate Fund after the World Climate Conference in Durban; and a package of resolutions including the second commitment period of the Kyoto Protocol adopted during the Doha Conference on Climate Change in December 2012, and so on. Therefore, a low-carbon economy and low-carbon energy have become worldwide trends.

Since a low-carbon economy is founded on low-carbonisation in energy production and consumption, it is dominating the advancement of energy technology in the world. In fact, the developed countries have integrated low-carbonisation of energy into their new round of energy strategy adjustments, ‘whose energy legislations also show the characteristics of low-carbonization.’<sup>32</sup> For example, the “Low-carbon Investment Promotion Law” adopted by Japan’s House of Representatives and Senate in May 2010 provides an important legal foundation for Japan to create a low-carbon society. Since July 2012, the state has begun to operate its “Total Amount of Renewable Energy Power Purchase System (FIT).”<sup>33</sup> It is thus clear that climate change mitigation and the transition to a low-carbon economy will produce changes in the rules, systems and regulations of the international energy order. Low-carbon energy is a basic guarantee of a low-carbon economy; clean production is the key to a low carbon economy; recycling is an effective method for sustaining a low-carbon economy; and sustainable development is the aspiration of a low-carbon economy.

### III.4. The rulemaking right in the energy market will become a new battlefield.

First, some oil-producing countries and consuming countries have established their own petroleum exchange to compete for international discourse power in the oil market. Currently there are two international pricing systems for crude oil: one is the trading price of Brent crude oil in the London International Petroleum Exchange; the other is the WTI (West Texas Inter-medium) pricing in NYMEX Exchange, USA.<sup>34</sup> In order to

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<sup>31</sup> Giddens, A., *Climate Change Politics*, translated by Cao Rongxiang, Social Sciences Academic Press, 2009, preface.

<sup>32</sup> Zewei, Y., “New Energy Laws and Policies in Developed Countries: Features, Tendencies and Implications”, *Journal of Social Science of Hunan Normal University*, ed. 4, 2012, 7.

<sup>33</sup> Under this system, the power companies are obliged in a prescribed period to purchase renewable energy power produced from solar, wind, geothermal, etc., at a price regulated by the government. This policy is considered to promote Japan’s rapid development of renewable energy and has strategic significance for renewable energy resources.

<sup>34</sup> Daojong, Z., *Zhongguo shiyou anquan de guoji zhengzhi jingjixue fenxi (International Political Economy Analysis of China’s Oil Security)*, Contemporary World Press, Beijing, 2005, 252-253.



protect their own interest, some countries have joined the battle for the oil pricing right. The India MCX listed crude oil futures in 2002, and the Iranian Oil Futures Exchange opened in 2008. In addition, the UAE in cooperation with the New York Mercantile Exchange has established the Dubai Mercantile Exchange (DME). Also, Russia has been making preparations for its crude oil futures exchange.

Second, investment funds have gradually become the main force to manipulate the oil market. With the fluctuations of the international oil price, banks, hedge funds, pension funds, social security funds and other types of investment funds, have invested in the oil futures market, and have in consequence controlled the oil pricing right, which has traditionally been dominated by the international oil industry. "Oil futures and options have developed into a new type of financial investment vehicle from a hedging instrument."<sup>35</sup>

Third, the competition between developed countries and emerging economies for the rule-making right of new energy has become increasingly intensified. As mentioned above, they have been contending for possession of a commanding height on new energy. On the basis of their advanced technology of new energy, developed countries have taken the leading position in international new energy market by dominating the rule-making authority of world energy sector, which further consolidates their international status and influence. On the other end of the spectrum, "emerging economics like China and India have built up their competitive advantages in some specific areas of the new energy industry to compete with developed countries by virtue of their labour cost, huge market and late-starter, etc."<sup>36</sup> Therefore, there will be more contentions over new energy, similar to the photovoltaic war between China and the United States and the European Union in the field of solar energy. At the same time, there will be more fierce competition in respect to the rulemaking right including technology standards, trade rules and management systems.

### **III.5. Diversification will become a feature of the new energy order**

First of all, new energy will be more diverse. Nowadays we can make use of various types of energy, including traditional energy, like oil, gas, coal and other fossil fuels, and new energy, like solar, nuclear, biomass and other resources, and also unconventional energy, e.g. oil sands, shale oil, and methane hydrate. Undoubtedly, energy resources will be even more diverse in the future.

Second, the energy market will be diversified. On one hand, with the establishment of oil futures exchanges in United Arab Emirates, India, Iran, Japan, Russia and other countries, the energy trading market has been diversified. On the other hand, the participants in the energy market have been diversified as well, with a reshuffle of their influential power: the power of multinational oil companies has been further compressed with their market controlling abilities declined; national oil companies have taken the dominant position after a new round of nationalisation as rule-makers for international energy cooperation; meanwhile, investment funds have become a significant force in international oil market.

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<sup>35</sup> Yuan-hua, Y., "Profound Changes in the World's Energy Pattern", *Power System and Clean Energy*, vol. 26, ed. 11, Nov. 2010, 21.

<sup>36</sup> Liangfu, Z., "China will replace the U.S. to guard the Strait of Hormuz? Changing international energy pattern", *World Affairs*, ed. 24, 2012, 21.

Finally, the energy pattern will be diversified. The United States and the European Union will maintain its advantages in the energy sector and control the rulemaking right of the international energy order; China, India and other emerging economies, with their growing economic strength, especially in the rise of the energy consumption market, will present their demands in the transition to a new international energy order. Therefore, the bi-polar international energy pattern of production countries and consumption countries will be diversified into a multi-polar pattern.

#### **IV. Functions of Contemporary International Law in the Transition to a New International Order**

International law as a regulator of international relations has a wide range of social functions. Based on the coordinated state will or consent, international law regulates state actions with limited mandatory norms. It's indispensable for the transition to a new international energy order,<sup>37</sup> since contemporary international law plays an important role in promoting, regulating and safeguarding the international energy order transformation.

#### **V. International Organisations Provide platforms for international energy cooperation.**

International organisations are important subjects of international law while its operating mechanisms and resolutions are also basic contents of contemporary international law. Most importantly, international organisations, such as the UN, the IEA, IAEA, OPEC, the Arab Petroleum Exporting Countries, the International Energy Forum, "G8" Summit, the Asia-Pacific Economic Cooperation Organization, the World Petroleum Congress and the World Energy Council, etc. have provided a platform for international energy cooperation. It's worth mentioning that the Energy Charter Conference (EEC), with its aim to facilitate dialogues and cooperation between energy producing and consuming states, has provided a common platform to develop and implement binding rules for all energy stakeholders.<sup>38</sup>

Since there is no single entity in the UN system that has primary responsibility for energy, UN-Energy, the interagency mechanism on energy, was established in 2004 to ensure coherence in the UN system's multi-disciplinary response and effective engagement on energy-related issues, with an aim to promote system-wide collaboration in the area of energy with a coherent and consistent approach.<sup>39</sup> UN-Energy has created an international platform to jointly handle international energy issues with substantive and collaborative actions both in regard to energy policy development and implementation, as well as in maintaining an overview of major ongoing initiatives

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<sup>37</sup> Zewei, Y., *New International Economic Order Research - Political and Legal Analysis*, Wuhan University Press, Wuhan, 1998, 95.

<sup>38</sup> Goldthaw, A. and Witte, J. M., eds., *Global Energy Governance: The New Rules of the Game*, Brookings Institution Press, Berlin, 2010, 65-66.

<sup>39</sup> UN-Energy, Energy Information Resource Integration, 01 June 2009, available online at <ny.whlib.ac.cn/RSdetail/detail.asp?id=111> and <un-energy.org> (accessed 21 February 2014).

within the system.<sup>40</sup> In recent years, UN-Energy has issued several energy-related reports, including “The Energy Challenges of Achieving Millennium Development Goals” and “United Nations Energy Situation: The General Mechanism for Activities”. At the same time they initiated many action plans, such as “Promotion of New Energy and Renewable Energy”,<sup>41</sup> “Renewable Energy and Energy Efficiency: EU's Southern and Eastern Neighbors' Innovative Policies and Financing Instruments”,<sup>42</sup> “Main Groups Priority Action in Energy for Sustainable Development, Industrial Development, Air Pollution/Atmosphere and Climate Change”,<sup>43</sup> and “Promotion of New Energy and Renewable Energy, Including The Implementation of the World Solar Programme”.<sup>44</sup> All of these efforts have provided a strong impetus to international energy cooperation.

### **V.1. Contemporary international law provides basic legal norms for international energy cooperation and transition to a new international energy order**

As mentioned above, “Regulations on Prospecting and Exploration for Polymetallic Nodules” and “Regulations on Prospecting and Exploration for Polymetallic Sulphides”, adopted by the International Seabed Authority respectively in 2000 and 2010, have provided detailed provisions on terminology, scope, prospecting, exploration plan application, exploration contract, protection and preservation of the marine environment, confidentiality, etc., thus laying a solid legal basis for all parties to conduct relevant prospecting and exploration activities in the Area. In addition, the draft “Regulations on prospecting and exploration for cobalt-rich ferromanganese crusts in the Area” and “Exploitation Regulations” will also provide legal norms on the exploration and development of cobalt-rich ferromanganese crusts resources in the Area. Take The Energy Charter Treaty, founded on the fundamental principles of non-discrimination, transparency and a commitment to the progressive liberalisation of international trade, it has laid down provisions on energy investment, energy trade and energy transit. It has also developed well-acknowledged goals and standards necessary for energy-related environmental protection, thus creating a level playing field of international energy rules to be observed by all participating governments.<sup>45</sup>

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<sup>40</sup> Yu Hongyuan, L.W., *International Energy Mechanism Innovation and the International Energy Law*, Ocean Press, 2010, 19.

<sup>41</sup> UN-Energy, REPORT: *Promotion of New Energy and Renewable Energy*, A/RES/62/197, available online at <[un.org/chinese/esa/energy/docs.shtml](http://un.org/chinese/esa/energy/docs.shtml)> (accessed 21 February 2014).

<sup>42</sup> UN-Energy, REPORT: *Renewable Energy and Energy Efficiency: EU's Southern and Eastern Neighbors' Innovative Policies and Financing Instruments*, E/CN.17 / 2007/11, available online at <[un.org/chinese/esa/energy/docs.shtml](http://un.org/chinese/esa/energy/docs.shtml)> (accessed 21 February 2014).

<sup>43</sup> UN-Energy, REPORT: *Main Groups Priority Action in Energy for Sustainable Development, Industrial Development, Air Pollution/Atmosphere and Climate Change*, E/CN.17/2007/7, available online at <[un.org/chinese/esa/energy/docs.shtml](http://un.org/chinese/esa/energy/docs.shtml)> (accessed 21 February 2014).

<sup>44</sup> UN-Energy, REPORT: *Promotion of New Energy and Renewable Energy, Including The Implementation of the World Solar Programme*, A/RES/60/199, available online at <[un.org/chinese/esa/energy/docs.shtml](http://un.org/chinese/esa/energy/docs.shtml)> (accessed 21 February 2014).

<sup>45</sup> Energy Charter Secretariat, *The Energy Charter Treaty and Related Documents*, September 2004, available online at <[www.encharter.org/fileadmin/user\\_upload/document/EN.pdf](http://www.encharter.org/fileadmin/user_upload/document/EN.pdf)> (accessed 21 February 2014).

In addition, relevant international treaties, the UN General Assembly resolutions and international judicial decisions have confirmed a state's permanent sovereignty over natural resources, thus providing a legal foundation for the state to strengthen their control and management of its natural resources. Article 56 of United Nations Convention on the Law of the Sea, specifically provides that the coastal state has “sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the (EEZ) zone, such as the production of energy from the water, currents and winds”; the “Declaration of permanent sovereignty over natural resources”, adopted by the UN General Assembly in 1962, has declared “[t]he right of peoples and nations to permanent sovereignty over natural wealth and resources” is a basic element of self-determination and also provided the right to nationalisation of their resources; the tribunal in *Kuwait v. Aminoil* award reached a conclusion in 1982 that, since a large number of constitutions have claimed all natural resources as national property, Kuwait enjoys full ownership of oil resources which could be placed under its domestic jurisdiction.<sup>46</sup>

## **V.2. Contemporary international law provides settlement mechanisms for international energy dispute.**

International lawyers divide international disputes settlement mechanisms into two categories: “peaceful means” and “non-peaceful or compulsory means”.<sup>47</sup> Peaceful means include political means (also known as diplomatic means) and legal means. The former consists of negotiation, good offices, mediation, conciliation, international investigation and resort to the United Nations; the latter consists of arbitration and judicial settlement. After World War II, settling disputes with peaceful means has become a fundamental principle of international law. Contemporary international law provides principles and methods for sovereign states and investors to settle various international energy disputes.

First, the principle of settling international disputes with peaceful means is not only a fundamental legal principle, but also a *jus cogens* norm. All international disputes, including international energy disputes, should be resolved with peaceful means. Moreover, “Pacific Settlement of Disputes”, Chapter 6 of “The UN Charter” provides for detailed procedures on peaceful settlements of international disputes.

Second, contemporary international law is the legal basis for judicial organs to decide cases on international energy disputes. For example, the Preamble of “The UN Charter” emphasises that “to ensure, by the acceptance of principles and the institution of methods, that armed force shall not be used”; Article 38 of “Statute of the International Court of Justice” clearly states: “The Court, whose function is to decide in accordance with international law such disputes as are submitted to it”. International law includes international conventions, international custom, the general principles of law, judicial decisions, the teachings of the most highly qualified publicists, resolutions of international organisations and so on.

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<sup>46</sup> Meizhen, Y., *International Investment Law as case studies*, Wuhan University Press, Wuhan, 1989, 125-144.

<sup>47</sup> Shearer, I. A., *Starke's International Law*, 11<sup>th</sup> ed., Buttersworth London, 1994, 441-442.

Third, some international conventions have provided special mechanisms to settle specific energy disputes. For example, “The Energy Charter Treaty” has special provisions for the settlement of disputes over trans-boundary energy pipelines, which set forth a specialised conciliation mechanism under the ECT besides conventional mechanisms, such as negotiation, consultation, arbitration and judicial settlement. The special conciliation mechanism is a unique settlement, which can play the role of a safety valve.<sup>48</sup>

### **V.3. Contemporary international law safeguards the new international energy order.**

On one hand, international legal documents have clearly defined a state's obligation to abide by contemporary international law, which is the code of conduct for the whole international community. All states are equal before international law, and all states must comply with international law and fulfil its international obligations. For example, “The UN Charter” Preamble solemnly proclaims “to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained”; Article 26 of The Vienna Convention on the Law of Treaties (1969) adopts the ancient principle of *pacta sunt servanda*: every treaty in force is binding upon the parties to it and must be performed by them in good faith”; meanwhile, “A party may not invoke the provisions of its internal law as justification for its failure to perform a treaty.” (Article 27)

On the other hand, these international legal mechanisms are more than external pressure for states to fulfill their international obligations; most importantly it's the legal basis for international community to impose sanctions against those states that have failed to fulfil their international obligations. For example, “Draft Articles on Prevention of Trans-boundary Harm from Hazardous Activities”, adopted by the International Law Commission in 2001, has confirmed a state's responsibility and international liability arising from the trans-boundary harms caused by its hazardous activities. Therefore, every state must meet its obligations while enjoying its right under the new international energy order; otherwise, it shall accept liability for any damage or international sanctions.

## **VI. China's Role in the transition to a new international energy order**

In 2011, China's primary energy production amounted to the equivalent of 3.18 billion tons of coal, the largest energy producer in the world.<sup>49</sup> However, China faces many challenges in its energy development: shortage of energy resources with low per capita volume of coal, petroleum and natural gas; rapid growth in energy consumption in recent years; increasing pressure on the security of energy supply; and more than 57% oil

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<sup>48</sup> Wandoo Nomhwange, G., “Transboundary Pipelines: What Is the Role of the Energy Charter Treaty Regarding Disputes Settlement?”, Dundee University Thesis, 2005, 49.

<sup>49</sup> China's State Council Information Office, China's Energy Policy (2012), White Paper, 24 October 2012, available online at <[www.gov.cn/jrzq/2012-10/24/content\\_2250377.htm](http://www.gov.cn/jrzq/2012-10/24/content_2250377.htm)> (accessed 05 February 2014).

dependence on foreign states. For these reasons, it's of significance for China to further strengthen international energy cooperation and promote the transition to a new international energy order, thus safeguarding its energy security. So it is particularly critical to redefine China's role in this process.

### **VI.1. To international energy rules: an active innovation instead of a passive recipient**

Due to various reasons China has always been a passive recipient of international rules with well-behaved performance, which is featured by the fact that 'Chinese government tries to make their behaviours consistent with the international rules instead of advocating new rules or changing the decision-making mechanism behind them for its own sake'.<sup>50</sup> As the second largest oil consumer and importer in the world, China has been excluded from the international crude oil pricing mechanism. China imports crude oil at the price of Brent or West Texas Intermediate (WTI). China does not have pricing power in the international crude oil market, so it can only passively accept the international oil prices. Wild fluctuations of the international oil price will not only bring tremendous market risks to Chinese petroleum and petrochemical companies, and end-users, but also will have an adverse impact on its social and economic development. Moreover, it will threaten China's energy security. In consequence, China should make a long-term plan to actively participate in the international oil pricing mechanism, formulate its own oil quotation system, and increase its influence on international oil prices. China should seize the 'strategic opportunity of establishing crude oil pricing center in the Asia-Pacific region'.<sup>51</sup>

Although there are the India Commodity Exchange, Dubai Mercantile Exchange and Tokyo Industry Commodity Exchange and so on, the crude oil futures market and the Asia-Pacific oil pricing centre are still in their initial stages. Therefore, it is a strategic opportunity for China to build up its own crude oil futures market and its international discourse power on energy.<sup>52</sup> In addition, China should make efforts to strengthen its coordination and cooperation with energy producing states, consuming states, and interest community in the multilateral international energy rule-making process and construct a new international energy order with its influence as a large energy consumer.

### **VI.2. To international energy affairs: from an onlooker to an active participant**

For a long time, the Middle East was crucially important to American energy security. However, the United States has made a strategic shift from the Middle East to its

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<sup>50</sup> Yien, J., "China and international system: the perspective of China outside", in: Yizhou, W., ed., *Construction in Contradiction: a multiple-insight into relationship between China and key International Organizations*, China Development Press, Beijing, 2003, 351.

<sup>51</sup> Yishan, X. and Dezhao, C., *High Coverage of China's Energy and Climate Diplomacy*, World Affairs Press, 2012, 56.

<sup>52</sup> According to the Voice of Russia radio website reported on November 26, 2012: "China is to start oil futures exchange project in Shanghai Futures Exchange, which means that China is actively participating in activities of oil market, can enable China to improve the impact on energy pricing." Quoted from: *Reference News*, 5th ed., 28 November 2012.

domestic and American market to secure its oil supply. Instead, China's energy supply has been increasingly dependent on the Middle East. Consequently, China needs the Middle East to be stable more than the United States. Although China is still a latecomer, an onlooker and a passive player in international energy affairs for the time being, it's urgent to put an end to the traditional diplomacy with an aloof detachment, and redefine its role as an active participant in international energy affairs. As some scholars have pointed out: 'China's international status and national interests make it difficult to detach itself from international affairs and stick to the principle of non-interference in each other's internal affairs, so 'protective intervention' will become China's inevitable choice to address this challenge.'<sup>53</sup>

### VI.3. To international public Goods: from a receiver to a contributor

According to IEA statistics, China consumed 2.252 billion tons of oil equivalents of energy in 2009, about 4 percent more than the United States, becoming the world's biggest energy consumer in that month.<sup>54</sup> However, the Chinese government rejected this assertion.<sup>55</sup> China's unwillingness to accept the title of the world's biggest energy consumer reflects China's lack of confidence with its growing global influence, and mentality to undertake greater international responsibilities.<sup>56</sup> In fact, China's GDP has surpassed Japan to become the world's second largest economy in 2010.<sup>57</sup> The international community has expected China, as one of the five permanent members of the UN Security Council with growing economic strength, to play a bigger role in global governance, regional cooperation and international conflicts. Observing that China has a seat at virtually every table and a role in virtually every institution of importance in the world, US Secretary of State Hillary Clinton said that 'China's power, wealth, and influence have pushed China rapidly to a new echelon in the international order', so the U.S. and 'the world are looking for even greater leadership from China'.<sup>58</sup> Therefore,

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<sup>53</sup> "Protective intervention" means: in case of serious humanitarian disaster in international relations, or China's national interests facing a serious threat or breach, the Chinese government will intervene to practice international law and democratic value and to protect Chinese national interests. Therefore, there are two main prerequisites for China to implement protective intervention: first, breaches of genocide, war crimes, ethnic cleansing and crimes against humanity and other international crimes; Second, China's national interests are threatened. See Zewei, Y., "The International Community's Democracy and Law Values and protection intervention", *Legal Science*, No.5, 2012, 45-46.

<sup>54</sup> International Energy Agency, *World Energy Outlook 2010*, 2010, available online at <[www.worldenergyoutlook.org/publications/weo-2010/](http://www.worldenergyoutlook.org/publications/weo-2010/)> (accessed 21 February 2014).

<sup>55</sup> *Supra* nt. 40, 10.

<sup>56</sup> American trade data indicated that China's total amount of import and export was 3.866 trillion dollars in 2012, 44 billion dollars more than the U.S. 3.822 trillion, thus reaching a conclusion that China has become the newly largest trading nation in the world. However, the Chinese government refuted the relevant reports in an unusual way: Chinese Commerce Ministry pointed out that according to WTO standards China's total trade volume in 2012 was 156 billion dollars less than that of the U.S. See McDonald, J., *China Reject the World's Largest Trading Nation Status*, The Associated Press, Beijing, 20 February 2013, quoted in: *Reference News*, 15<sup>th</sup> ed., 21 February 2013.

<sup>57</sup> Sina Financial Network, *China's annual economic output of 2010 surpassed Japan for the first time*, 21 January 2011, available online at <[finance.sina.com.cn/china/hgjj/20110121/12529291562.shtml](http://finance.sina.com.cn/china/hgjj/20110121/12529291562.shtml)> (accessed 21 February 2014).

<sup>58</sup> The Hindu, *Global problems can't be solved without U.S., China: Hillary*, 8 March 2012, available online at <[thehindu.com/news/international/global-problems-cant-be-solved-without-us-china-hillary/article2973249.ece](http://thehindu.com/news/international/global-problems-cant-be-solved-without-us-china-hillary/article2973249.ece)> (accessed 21 February 2014).

China is facing the task of transforming from a recipient to a provider of public international goods on energy.

China should improve its international discourse power by actively participating in the development of new technology standards, trade rules and management systems on energy. True to some scholar that ‘China should understand that more power also means more responsibility, and it cannot expect greater influence without also assuming a part of the burden borne almost exclusively by the US in terms of providing public goods for the rest of the world.’<sup>59</sup> Great powers not only share prestige and influence, but also share the obligations to improve international security and general welfare.

## VII. Conclusion

In conclusion, dramatic changes of the international energy order have indicated the advent of a new international energy order. Meanwhile, in front of these new challenges for its energy security, China should make a full use of its growing global status to seize this historical opportunity and contribute more “Chinese Initiatives” and “Chinese Solutions” to accelerate the transition to the new international energy order.

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<sup>59</sup> New Straits Times, Ching, F., *With rising power comes greater responsibility*, 29 November 2012, available online at <[nst.com.my/opinion/columnist/with-rising-power-comes-greater-responsibility-1.178169](http://nst.com.my/opinion/columnist/with-rising-power-comes-greater-responsibility-1.178169)> (accessed 21 February 2014).