



Студенттер мен жас ғалымдардың
«ҒЫЛЫМ ЖӘНЕ БІЛІМ - 2018»
XIII Халықаралық ғылыми конференциясы

СБОРНИК МАТЕРИАЛОВ

XIII Международная научная конференция
студентов и молодых ученых
«НАУКА И ОБРАЗОВАНИЕ - 2018»

The XIII International Scientific Conference
for Students and Young Scientists
«SCIENCE AND EDUCATION - 2018»



12th April 2018, Astana

**ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ
Л.Н. ГУМИЛЕВ АТЫНДАҒЫ ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ**

**Студенттер мен жас ғалымдардың
«Ғылым және білім - 2018»
атты XIII Халықаралық ғылыми конференциясының
БАЯНДАМАЛАР ЖИНАҒЫ**

**СБОРНИК МАТЕРИАЛОВ
XIII Международной научной конференции
студентов и молодых ученых
«Наука и образование - 2018»**

**PROCEEDINGS
of the XIII International Scientific Conference
for students and young scholars
«Science and education - 2018»**

2018 жыл 12 сәуір

Астана

УДК 378

ББК 74.58

Ғ 96

Ғ 96

«Ғылым және білім – 2018» атты студенттер мен жас ғалымдардың XIII Халықаралық ғылыми конференциясы = XIII Международная научная конференция студентов и молодых ученых «Наука и образование - 2018» = The XIII International Scientific Conference for students and young scholars «Science and education - 2018». – Астана: <http://www.enu.kz/ru/nauka/nauka-i-obrazovanie/>, 2018. – 7513 стр. (қазақша, орысша, ағылшынша).

ISBN 978-9965-31-997-6

Жинаққа студенттердің, магистранттардың, докторанттардың және жас ғалымдардың жаратылыстану-техникалық және гуманитарлық ғылымдардың өзекті мәселелері бойынша баяндамалары енгізілген.

The proceedings are the papers of students, undergraduates, doctoral students and young researchers on topical issues of natural and technical sciences and humanities.

В сборник вошли доклады студентов, магистрантов, докторантов и молодых ученых по актуальным вопросам естественно-технических и гуманитарных наук.

УДК 378

ББК 74.58

ISBN 978-9965-31-997-6

©Л.Н. Гумилев атындағы Еуразия
ұлттық университеті, 2018

- hints-at-basis-of-trumps-national-security-strategy/(датаобращения: 26.12.2017)
8. National Security Strategy of the United States of America[Электрон.ресурс]. – December 2017. – URL: <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>(датаобращения: 7.01.2018)
 9. CPC creates Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era[Электрон.ресурс]. – 19.10.2017 – URL: http://news.xinhuanet.com/english/2017-10/19/c_136689808.htm (датаобращения: 8.01.2018)
 10. Xi stresses implementation of major policies, integrity of leading officials, International Department of the Central Committee of CPC[Электрон.ресурс]. – 2017.12.26 – URL: http://www.idcpc.org.cn/english/events/201712/t20171227_94797.html (датаобращения: 8.01.2018)
 11. Xi steers Chinese economy toward high-quality development, International Department of the Central Committee of CPC[Электрон.ресурс]. – 2017.12.20 – URL: http://www.idcpc.org.cn/english/events/201712/t20171221_94624.html (датаобращения: 2.02.2018)
 12. СимтиковЖ.К., ҚанышЖ.А. ҚХР Орталық Азия мемлекеттеріне қатысты көпвекторлы экономикалық саясатының негізгі мәселелері // Вестн. КазНПУ. Сер. Международнаяжизньиполитика. – 2016. – № 4. - С. 6.
 13. President Donald J. Trump: Year One of Making America Great Again[Электрон.ресурс]. – December 22, 2017 – URL: <https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-year-one-making-america-great/> (датаобращения: 2.02.2018)
 14. Торгово-экономические отношения Китая и США в цифрах[Электрон.ресурс]. – 2017.02.23 – URL: http://russian.news.cn/2017-02/23/c_136079315.htm (датаобращения: 3.02.2018)

УДК 339.3

PETROLEUM ENERGY OF MODERN CHINA

MametaıMadina Abdullakzy

abdullaevna_96@mail.ru

Master degree of L.N.Gumilyov Eurasian National University, Astana, Kazakhstan
Scientific advisor – L.N.Nursultanova

China is a country with a population of 1.3 billion people and an economy that stably grows on average by 8-10% per year. In the last decade, economic development in China has increased the demand for oil. However, the growth of Chinese oil production could not ensure sustainable economic development, which inevitably led to an increase in imports or quotas for oil. According to the US Energy Information Agency (EIA) statistics, the consumption of petroleum products in China surpassed Japan in 2003 and it became the second largest in the world after the US, on average it consumed 5.56 million barrels of crude oil per day [1, 146p.]. China's dependence on oil imports in 2004 reached 40%, and in 2007 - 69.3 billion cubic meters, an increase of 20 billion cubic meters. EIA predicts that by 2025 China will consume at least 12.8 million barrels of oil per day, of which 9.4 million will depend on imports, although China announced the continuation of new oil and gas reserves in the future.

In China's oil and gas market are dominate five oil companies: PetroChina, Sinopec, China National Offshore Oil Corporation (CNOOC), Sinochem Group and Yanchang Petroleum (a state-owned company in Shaanxi Province). Sinopec controls 46 percent of the total refining capacity, while PetroChina accounts for 31 percent. The rest is processed by small oil refineries. CNOOC

focuses on the development of oil fields on the shelf and has limited processing capacity.

China Petroleum and Chemical Corp., known as Sinopec, is an oil and gas and chemical giant with more than \$ 440 billion of consolidated revenue. In 2014 the company produced about 361 million barrels of crude oil. Sinopec ranks first on this list on the basis of consolidated revenue, but it is the second largest crude oil producer in China.

Sinopec conducts extensive operations throughout the entire oil supply chain, from exploration and drilling to retail sales at more than 30,000 gas stations. Sinopec was founded in 1998 after the reorganization of its predecessor company China Petrochemical Corporation. Sinopec issued shares on the Hong Kong Stock Exchange in 2000, since then it was registered on the Shanghai and New York Stock Exchanges.

China National Petroleum Corporation or CNPC is the second largest crude oil producer in China, has an impressive amount of revenue and industrial production. In 2014, the company reported more than \$ 425 billion in consolidated revenues and production of almost 1.2 billion barrels of crude oil. Like Sinopec, CNPC manages businesses along the entire length of the oil supply chain - from initial exploration to retail.

The Chinese National Petroleum Corporation, known as CNOOC, was established in 1982, for the exploration and production of oil and gas in China's maritime waters. Since then, it has evolved into an international company, whose activities are developing in more than 40 countries. In 2014 CNOOC provided more than \$ 95 billion in consolidated revenue.

In addition to exploration and production of oil and gas, CNOOC also deals with processing, energy, retail marketing, engineering and technical services.

Sinochem Group was founded in 1950 as a result of the reorganization of the largest international trading company – China National Chemicals Import & Export Corporation. Sinochem Group remains the largest chemical company in the country, but expanded its activities, including energy, real estate, agriculture and financial services.

Sinochem Group reported about consolidated revenues of more than \$ 77 billion in 2014. It began a serious development of its oil and gas business in 2014 and has since acquired rights to 39 blocks of oil and gas reserves in 11 countries. The production volume is more than 25 million barrels of oil, which puts it on the fifth place in the extracted crude oil in China. Three subsidiaries, such as Sinochem International, Frashion Properties and Sinofert, are listed on the Shanghai Stock Exchange.

Yanchang Petroleum is engaged in exploration and production of oil and gas, as well as operations for its processing in various parts of the world. In 2014 the company's consolidated revenue is about \$ 2.9 billion, and production is \$ 91.5 million barrels [2].

The oil industry of China began to develop since the late 1950s. In the field of geological prospecting, the PRC cooperated closely with the USSR – a major oil producer. With the help of Soviet specialists the largest oil and gas bearing field called Daqing was discovered in Manchuria (geological reserves of oil amount to 6.36 billion tons, and natural gas - 1 trillion cubic meters at a depth of 1-4 km) in 1959.

Joint development of the field was suspended because of the complication of international relations between the USSR and the PRC because of the Soviet Union's cessation of assistance to China in the nuclear field. Moscow recalled its specialists, equipment and demanded the payment of debts, and also reduced oil supplies to China. Thus, China was forced to develop the Daqing deposit independently, in difficult conditions, in the absence of modern technology and related infrastructure.

The Chinese leadership decided to eliminate the dependence of China's economy on oil imports. After Daqing, in the early 1960s, other oil fields were discovered that worked at an accelerated pace under the leadership of the Minister of the Oil Industry – CanaShien. Thus, by the early 1970s, China was able to provide oil not only to itself, but also to its neighbors [3].

In the mid of 1970's of last century, Vice Premier Minister Deng Xiaoping and other leaders of the PRC came to understand that the doctrine of "self-sufficiency" of China's economy, which operated until then, is not viable. China needs access to international technology and equipment for

economic modernization and the resumption of economic growth. Thus, China's self-reliance strategy has changed to the strategy of its openness. The historic decision to launch the policy of "opening reforms" was proclaimed at the Third Plenum of the CPC Central Committee in 1978.

Xiaoping decided to expand oil exports, which turned the Chinese oil industry into one of the main sources of foreign exchange inflow into the economy [4]. The closest market was in Japan, which sought to reduce dependence on supplies from the Middle East.

Owing to oil export revenues, Chinese oilmen began importing modern drilling rigs, seismic and technical equipment, which significantly expanded the innovative capabilities of the industry.

By 1993 the national oil industry had ceased to keep pace with the needs of a fast-growing economy. The PRC government has faced the task of covering the energy deficit by importing. Economic diplomacy received a practical solution to this problem.

It was necessary to modernize the structure of the oil industry, the foundation of which was laid back in the 1980s. In this regard, to CNPC, Sinopec, CNOOC was given a certain independence.

The next step in the late 1990s. has become a radical restructuring of these national corporations, to make them modern, technologically advanced and more independent. Soon all three companies implemented an IPO in international markets, which allowed them to play their role in the oil business [3].

The government's oil policy is mainly described in the document "Technical Policy: China's Energy Policy 2012", which describes the status, activities and goals of energy development in China. The government's policy is also aimed at accelerating the development and use of non-traditional oil and gas resources, including coal bed methane, shale gas and oil and oil sand. The medium-term policy is aimed at improving the construction of backbone grids for crude oil, oil products and natural gas, which will increase the share of transport that is carried out through pipelines.

In the future, an industry may be opened for private investors, as well as will change administrative regulations for the oil stock and protection of oil and gas offshore pipelines.

Improving the efficiency of the public sector is a key goal of the new leadership, which announced in November 2013 the reform of the main SOE sector ("hybrid property reform"). Private investors are invited to invest in state owned companies. For example, China Petroleum & Chemical Corporation (SINOPEC) discussed with 25 investors the issue of possible sales for 17.5 billion dollars of one of its divisions [4].

China's oil resources are mainly distributed in the northeast, the most scarce areas are the provinces of Tibet, Yunnan and Guizhou in the south-west [5, p. 53].

Eight oil and gas fields, such as Pinhu, have been found in the Sihua-Saga in the central basin of the East China Sea east of Zhejiang Province.

Oil production in China can't meet the needs of economic development. According to medium-term and long-term forecasts of foreign and Chinese energy agencies at home and abroad, the gap between supply and demand grows year by year. It is estimated that the gap will reach 230 million tons by 2020, by that time it is expected that 70% of oil will need to be imported. Even in 2006, the volume of imports was more than production, and the balance of reserves was negative. Therefore, the situation with oil supplies in China is not encouraging [6].

However, relying on its own resources, China in any case can't ensure sustainable rapid economic development in the coming decades. Excessive dependence on oil imports undoubtedly creates great international risks and will be associated with the limitations and problems of Western countries. The expansion of oil sources and their diversification will be a problem that China will face in the short term. International experts also constantly point out that the energy security of the country is the key to the diversification of energy [7].

There is a special State Chancellery for Oil Reserves and the Energy Administration as part of the State Committee for Development and Reforms in China. To date, the Chinese government has developed the 12th Energy Five-Year Plan. Based on this document, has been drawn up an action plan to promote China's energy policy, and priority tasks have been identified, the implementation

of which, according to the program's developers, will strengthen the PRC's national security system in the field of energy.

As strategic tasks within the framework of China's new energy concept, the following areas of development of the national energy complex of the country can be singled out:

- Strengthening its own energy reserves, searching for oil resources, increasing the financing of foreign research, developing new projects, various forms of promoting international oil imports, creating and improving the system of oil reserves;

- The strategic oil reserve is a matter of national defense and security, in this regard, the government allocates low interest loans and provides political support to the construction projects of oil enterprises [8].

Currently, more than half of China's oil imports are in the Middle East, and in Saudi Arabia - about 17%. Oil supplies from the Middle East are the most insecure for China. Therefore, China needs to step up efforts to expand the diversification of sources of oil imports and ensure the security of oil supplies. They should learn from the practice of Japan, to reduce the volume of imports in the Middle East and the gap in imports between several large oil-importing countries and regions, to avoid excessive dependence on one country or region.

In recent years, China has consistently invested in the oil industry of Kazakhstan, Venezuela, Sudan, Iran, Peru and Azerbaijan. Such activity gives the West the impression that the Chinese oil industry is attacking the world and competing with transnational oil companies.

At the same time, China actively promotes oil diplomacy, continues to strengthen its oil cooperation with Russia, West Africa, Central Asian countries and other regions. At the same time, it increases the share of oil imports with a relatively low risk and develops new pipeline transport routes to reduce the risk of oil imports. In addition, China should take a more active part in APEC, ASEAN, the International Energy Forum, the World Energy Conference, the Asia-Pacific Pact for the Development of Climate Partnership.

To improve the effectiveness of the oil policy, China needs to use a reasonable balance between supply and demand, improve investment and taxation and bring it in line with international price standards. In addition, it is necessary to create and improve the system of technical standards, a nationwide network for monitoring fuel economy.

In terms of imports of natural resources, China places particular emphasis on Iranian oil, which is about 12% of China's total oil imports. In the event of a conflict in Iran, triggered by an internal political confrontation or external influence from the US and Israel, the Chinese economy could be seriously affected by the shortage of hydrocarbon supplies.

In this regard, Beijing maintains close ties with the Iranian leadership. After the signing of the China-Iranian long-term oil and gas contracts in 2004, Iran began to play a significant role in ensuring China's energy security. In this context, the possibilities of laying a pipeline from Iran to China through the territory of Central Asia are proposed [9].

However, at the moment there are a number of obstacles, due to which the idea doesn't get much popularity among the prospective participants of the project. Among them we can mention:

- the geopolitical motives for the implementation of the ground-based pipeline project from Iran to China are fully justified, which can't be said about economic and technical issues. In particular, the shipping route remains a much more economically competitive alternative to land transport;

- according to experts, the implementation of this project can raise the issue of Iran's admission to the SCO. Although China supports Iran's admission to the Organization, other members of the SCO don't show their interest in the presence of Iran as a full-fledged participant.

Along with the increase in the volume of imports of Middle Eastern hydrocarbons, the Chinese authorities in recent years have begun to pay attention to other countries that supply energy resources, primarily to African countries. Thanks to the active penetration of Chinese energy companies into African countries, Beijing over the past few years has been able to somewhat reduce dependence on imports of Middle Eastern oil.

Today, Africa is the second largest oil supplier to China, providing about 27% of the country's

total oil imports. Proceeding from this, Beijing intends to continue to develop the African vector of its energy policy. It should be noted that African oil solves only one of two problems of China's energy security - dependence on Middle Eastern oil. The second problem - the provision of safe routes for the delivery of raw materials through the Straits of Malacca remains open. Given this circumstance, China has taken a course to develop intracontinental land transport communications to supply oil and gas raw materials to the country.

According to Chinese researchers, Russia and the countries of Central Asia will play an important role in this regard. Moreover, these countries, in addition to transit opportunities, can also export their own natural resources. So, Beijing plans to create a whole network of oil and gas pipelines from Eastern and Western Siberia, as well as from Kazakhstan, Uzbekistan and Turkmenistan, which will cover part of China's needs.

Its relevance in terms of ensuring energy security of the PRC gets the question of the rivalry of global centers of power for access to energy resources, where China is at a disadvantage. Virtually all major oil and gas supplying countries are already in the zone of traditional influence, on the one hand the United States and Western countries, on the other - Russia and India. Therefore, in the external energy policy of China, the countries of hydrocarbon resources exporters in South-East Asia (Indonesia, Thailand, Malaysia) and Central Asia (Kazakhstan, Turkmenistan, Uzbekistan) take a special place [7].

So, the Chinese oil policy can't influence the world oil market. According to the International Energy Agency, China's consumption in 2030 will grow to 13.1 million barrels per day. The country invests heavily in alternative sources, but even 25 nuclear power plants under construction will have less than 1 percent of its needs. The balance of supply and demand is still one of the fundamental factors affecting prices. Now, according to various estimates, the excess supply over demand is 1-1.5 million barrels per day.

Chinese oil companies have responded to investments in oil production around the world, from Angola and Sudan to Kazakhstan. However, the total volume of foreign products owned by Chinese firms in 2006 amounted to only 0.675 million barrels - less than 19 percent of their imports. This means that China continues to be dependent on Middle Eastern oil, with half of its imports coming from Saudi Arabia and Iran alone. As elsewhere in the world, China will become even more dependent in the future [10].

At best, the West and China could cooperate to manage a declining oil pool in the Middle East, distributing resources on an equal basis and jointly guaranteeing security.

Thus, China's oil and gas industry has oil companies, whose shares are registered on international stock exchanges, and oil production is increasing year by year. At the same time, China has developed its strategy aimed at attracting foreign investment while simultaneously developing markets in Africa, the Middle East, Central Asia and other regions.

Literature:

1. Даркенов Қ.Ф. Әлемдік саясат пен экономикадағы АҚШ пен Қытай арасындағы бәсекелестік. // Жаһандану заманындағы аймақтану мәселелері. 2014 жылғы ғылыми мақалалар жинағының кезекті басылымы. – Астана: ЖІШС Мастер ПО, 2014 – 352 б
2. J. William Carpenter. The 5 Biggest Chinese Oil Companies (SNP) | Investopedia. 2015, September 15.
3. <https://www.investopedia.com/articles/markets/091515/5-biggest-chinese-oil-companies.asp#ixzz56xA19wFS>
4. Никитина М.Г., Пыжик С.А. Нефтяная дипломатия Китайской народной республики. // Ученые записки Таврического национального университета имени В.И. Вернадского.// Серия «Экономика и управление». Том 27 (66). 2014 г. № 1. С. 94-100.
5. XiongJin, ZhaoYanandZhaoGeorge.Oil and gas regulation in China: overview
6. [https://content.next.westlaw.com/Document/Id4af1a8d1cb511e38578f7ccc38dcbee/View/FuIIText.html?contextData=\(sc.Default\)&transitionType=Default&firstPage=true&bhcp=1](https://content.next.westlaw.com/Document/Id4af1a8d1cb511e38578f7ccc38dcbee/View/FuIIText.html?contextData=(sc.Default)&transitionType=Default&firstPage=true&bhcp=1)
6. Кызжибек Ибрай. Нефтегазовый комплекс Китая. // Журнал KAZENERGY 2007. № 4

(8). С. 52-57

7. 6.BP Statistical Review of World Energy <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/oil.html>

8. 陶丽萍 (Tao Liping). 国际油价下跌对中国经济的影响 (Влияние снижения цен на нефть на экономику Китая) 2015-02-15 <http://www.sic.gov.cn/News/81/4260.htm>

9. 孙春醒 (Sun Chun-wook). 日本石油全球化战略对我国的影响分析 (Влияние японской стратегии глобализации нефти на Китай) 2010-07-29 http://www.mlr.gov.cn/zljc/201007/t20100729_727862.htm

10. Вэнь Цзинь Юнь. 石油地缘政治——中亚篇 (Нефтяная геополитика - Центральная Азия). // Hai Tong Securities: 2015 Oil and Gas Investment report. 2016-02-12

11. Топалов А. Китай спасает нефть. // Газета.ру 28.05.2015 <https://www.gazeta.ru/business/2015/05/27/6735569.shtml?updated>

УДК 323(73)

IRAN AND KAZAKHSTAN: CONTEMPORARY COOPERATION

Mohammad Sheikh Zeinoddin

mohamad.shez@gmail.com

Bachelor at Regional Studies department Eurasian national university L.N. Gumilyov,
Scientific advisor A. Ibrayeva.

The Islamic Republic of Iran was one of the first countries in the world to recognize the independence of the Republic of Kazakhstan. In 1993, in the city of Tehran, the embassy of the Republic of Kazakhstan was opened and one year earlier, in 1992, in the city of Almaty, the embassy of the Islamic Republic of Iran was opened.

Iran is one of Kazakhstan's most important partners in Central Asia and the Middle East. In spite of the special political conditions of the region and the world, and considering the policy of the global village and considering the various dangers and crises, the expansion of relations between the two republics of Kazakhstan and Iran has been favorable. According to this experience, it can be claimed that the relations we have come out of the history of the two countries. Over the years, fortunately, there has been no major conflict or conflict between the two countries in the region and in the world. The two countries have managed to maintain stable relations in all areas [1].

Bilateral cooperation between Kazakhstan and Iran and the promotion of political relations based on the interest of the two countries to improve the welfare of the people and to strengthen the security of the region has gradually expanded. The presidents of both countries were very important for the strengthening and expansion of permanent mutual cooperation. For this reason, political talks have been held over the years.

The volume of trade between Iran and Kazakhstan in 2014 was \$ 987 million, with Kazakhstan's share of \$ 893 million and Iran's exports of \$ 94 million. Although this rate was 59% higher than in 2013, due to the existence of a common water border in the Caspian Sea and the presence of rich energy resources in the region and the establishment of political and economic stability in Kazakhstan, this rate is not optimal. Particularly, the two countries now have a four-way communication with rail, land, air and sea. However, due to the lack of direct access of Kazakhstan to free waters and the presence of Iran in its southern shipping route, transport cooperation can be a priority for the two countries' commercial ties. In particular, Kazakhstan also considers communications and transportation two important factors in establishing relations and cooperation with Iran. Hence, there is a potentially good potential for different forms of relations between the two countries, which can be effectively applied with the sustainability of the direct shipping lines, including aeronautical and terrestrial communications (railways). Because the Islamic Republic of Iran is considered the best and most cost-effective transit route for the swap of goods of Kazakhstan