



ЭКОНОМИКА ОТРАСЛЕВЫХ РЫНКОВ INDUSTRIAL ORGANIZATION MARKETS


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The Indian Republic in the global energy markets

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Abstract. Energy is an integral part of the economic security of any state, and it is more complex, the lower the degree of provision with its mineral resources and the higher the number of the population living in the country. Being the undisputed world leaders in terms of population (1.4 billion people and 1.3 billion people), China and India are concerned about ensuring the energy security of their national economies. According to the latest forecasts formed by the International Energy Agency, by 2040, these two countries will become world leaders in terms of imports of mineral products (in this case: crude oil and natural gas). China is the world leader in exporting goods; India is implementing an economic and industrial policy to turn the country into a world manufacturing hub. In this regard, providing countries with energy resources is one of the most critical tasks. At the same time, a significant problem is a dependence on regular supplies of raw materials and world prices for energy carriers. Respectively, countries should pursue a policy of diversification of suppliers of mineral products. The subject of this study is the Republic of India and its position in the world energy markets; issues of energy security and energy policy are also highlighted.


Keywords: India, energy security, crude oil, natural gas, mineral resources, economic security

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Индийская Республика на мировых рынках энергетических ресурсов

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Аннотация. Энергетическая безопасность является неотъемлемой частью экономической безопасности любого государства, и ее обеспечение тем сложнее, чем ниже степень обеспеченности собственными минеральными ресурсами и выше численность

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проживающего в стране населения. Китай и Индия, являясь безоговорочными мировыми лидерами по численности населения (1,4 и 1,3 млрд чел. соответственно), озабочены обеспечением энергетической безопасности национальных экономик. По последним прогнозам, сформированным Международным энергетическим агентством, к 2040 г. указанные страны станут мировыми лидерами по показателю импорта минеральной продукции (в данном случае сырой нефти и природного газа). Китай – мировой лидер по экспорту товаров, в Индии реализуется экономическая и промышленная политика по превращению страны в мировой производственный хаб, в этой связи обеспечение стран энергетическими ресурсами одна из важнейших задач. Одновременно с этим важной проблемой является зависимость от регулярных поставок сырья и мировых цен на энергоносители, соответственно, страны должны проводить политику диверсификации поставщиков минеральной продукции. Предметом исследования стали Республика Индия и ее положение на мировых рынках энергетических ресурсов; освещаются также вопросы энергетической безопасности и проводимой в области энергетики политики.

Ключевые слова: Индия, энергетическая безопасность, сырая нефть, природный газ, минеральные ресурсы, экономическая безопасность

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Introduction

Despite the reasonably broad and complete coverage of world energy markets and energy security in modern economic literature, many countries are insufficiently considered in scientific research. Among the Russian specialized institutes in whose scientific interests the Indian Republic falls, one can single out the Institute of Oriental Studies of the Russian Academy of Sciences and the work of the Center for Indian Studies under T.L. Shumyan (Shaumyan, 2020; Mal'yarov, 2014). Scientific research of the Institute of World Economy and International Relations of the Russian Academy of Sciences is also devoted to the Indian Republic (Bragina, 2020). The works of N.V. Galisheva, an employee of the MGIMO University, are devoted to the Indian economy (Galisheva, 2019, 2020). The Peoples' Friendship University of Russia also has many studies, the subject area of which is the Indian Republic, its role and place in the world economy, as well as in the system of trade and economic relations with the Russian Federation (Kononova, 2018, 2021; Gusakov, Kononova, 2017). Economic and foreign economic security issues were reflected in the works of the scientific, economic school of such authors as I.V. Andronova, N.P. Gusakov, N.A. Zotova.

Methods

The tools used in this work seem to the authors to be quite logical and straightforward, since it is associated with traditional survey analytical methods, such as deduction, induction, retrospective. The study's primary purpose is to identify the degree of importance and interconnection of the country's position on the world energy market with the categories of economic and energy security.

India in the world energy markets: in the context of economic and energy security

The global momentum in using traditional energy sources persists, despite the growing interest in alternative energy sources, and crude oil, natural gas, and coal have essential positions in the world energy markets.

The Indian Republic belongs to the circle of countries whose population, resource endowment, and industrial potential, together with ongoing reforms and transformations, determine the state's high dependence on regular supplies of mineral products. The Republic's dependence on the uninterrupted supply of energy resources is included in the system of energy security and economics, respectively.

Considering that, according to the International Energy Agency (IEA) forecasts, China and India will become world leaders in the import of natural gas and crude oil by 2040, ensuring relative energy security and diversifying the geography of supplies of mineral products are critical tasks for these countries.

According to OPEC estimates, by 2045, India and China will accumulate about 40% of global GDP. According to the organization's experts, it is developing countries with a high population (including China and India) that play a crucial role in maintaining the demand for traditional energy sources. OECD countries are reviewing energy policies and technologies, switching to low carbon production, being concerned about the environment, and introducing alternative energy sources. More than half of the demand for conventional energy sources by 2045 will come from India and China. By 2045, the demand of the Indian Republic for coal will increase by an average of 2.6% annually, despite the global downward trend in demand for this type of raw material. Demand for crude oil by 2045 from developing countries will only continue to grow. The main prerequisites for such growth are increased middle-class share in developing countries, high population growth rates, and substantial economic potential. The Indian Republic, by the indicated forecast period, will become the primary consumer and generator of demand for crude oil in the world (Figures 1 and 2).

An additional factor contributing to the maintenance of high demand for traditional energy sources is the growth of urbanization, the increase in the number of cities, urban settlements, the development of infrastructure, and the implementation of industrialization processes in them.

Despite the optimistic forecasts by OPEC for India, the country is pursuing a policy of gradually reducing the use and purchases of traditional energy sources in the direction of renewable energy sources. The country is undergoing economic transformations to transform the country into an international industrial hub. The issues of dependence on the supply of energy resources and fluctuations in world prices for raw materials seem to be more than essential and acute.

According to the latest figures released by the Ministry of Industry and Trade of India, FY2019–2020 key importers of the product group “27 – Mineral fuels, mineral oils, and products, distillates” are Iraq (15.4%), Nigeria (6.5%), Saudi Arabia (15%), UAE (10.5%).

OPEC countries account for a significant share in the geography of raw materials supplies to India, which means that the Republic is tied to world prices for raw materials and is forced to pursue a policy of diversifying supplies.

	Levels <i>mboe/d</i>						Growth <i>mboe/d</i>	Growth <i>% p.a.</i>	Share <i>%</i>	
	2019	2025	2030	2035	2040	2045	2019–2045	2019–2045	2019	2045
OECD Americas	56.3	55.7	56.2	56.2	56.0	55.8	-0.5	0.0	19.5	15.5
OECD Europe	36.5	35.3	34.9	34.4	33.8	33.3	-3.1	-0.3	12.6	9.2
OECD Asia Oceania	18.3	17.7	17.8	17.8	17.6	17.5	-0.7	-0.2	6.3	4.9
OECD	111.1	108.7	109.0	108.4	107.4	106.7	-4.4	-0.2	38.4	29.5
China	65.6	71.5	75.8	78.6	80.6	82.3	16.7	0.9	22.7	22.8
India	18.9	22.2	26.6	31.1	35.2	38.8	19.8	2.8	6.5	10.7
OPEC	20.5	22.2	25.3	28.1	30.6	32.2	11.7	1.8	7.1	8.9
Other non-OECD	50.0	55.2	61.5	67.8	73.8	76.5	26.5	1.6	17.3	21.2
Russia	14.9	14.6	14.6	14.6	14.6	14.4	-0.5	-0.1	5.2	4.0
Other Eurasia	8.1	8.5	9.0	9.6	10.0	10.4	2.4	1.0	2.8	2.9
Non-OECD	178.1	194.3	212.9	229.8	244.9	254.6	76.5	1.4	61.6	70.5
World	289.1	303.0	321.9	338.1	352.3	361.3	72.1	0.9	100.0	100.0

Figure 1. Total primary energy demand by region in 2019–2045

Source: World Oil Outlook – 2020. Retrieved May 15, 2021, from <https://woo.opec.org/pdf-download/index.php>

	Levels <i>mboe/d</i>						Growth <i>mboe/d</i>	Growth <i>% p.a.</i>	Fuel share <i>%</i>	
	2019	2025	2030	2035	2040	2045	2019–2045	2019–2045	2019	2045
Oil	4.7	5.7	7.0	8.3	9.6	10.7	6.0	3.2	24.8	27.6
Coal	8.6	9.9	11.7	13.6	15.3	16.6	8.0	2.6	45.6	42.9
Gas	1.1	1.4	1.9	2.4	2.8	3.2	2.1	4.1	5.9	8.2
Nuclear	0.3	0.4	0.6	0.8	0.9	1.2	0.9	6.0	1.3	3.0
Hydro	0.3	0.3	0.4	0.5	0.5	0.6	0.3	3.1	1.4	1.5
Biomass	3.8	4.0	4.1	4.2	4.2	4.2	0.4	0.4	19.9	10.7
Other renewables	0.2	0.5	0.9	1.4	1.8	2.3	2.1	10.1	1.0	6.0
Total	18.9	22.2	26.6	31.1	35.2	38.8	19.8	2.8	100.0	100.0

Figure 2. India primary energy demand by fuel type in 2019–2045

Source: World Oil Outlook – 2020. Retrieved May 15, 2021, from <https://woo.opec.org/pdf-download/index.php>

The “energy transition,” which is currently being implemented in India, is primarily interconnected with the problems of environmental pollution and “movement” towards green technologies, the use of alternative energy sources, and moving away from traditional “dirty” forms of energy.

The “energy transition,” both on the part of developed economies and developing ones, should, according to experts, be carried out sequentially, with a step-by-step abandonment of the use of traditional energy sources, the restructuring of the technologies, infrastructure, and production capacities, which, in turn, requires colossal investment.

The currently used technologies and production processes, in general, are in direct dependence on cheap and accessible raw materials, and the “exclusion” of

traditional energy sources from this link is associated with an imbalance and regular supply of goods, fluctuations in the indicators of international economic relations.

The “transition” is fraught with threats of fluctuations in economic growth and development indicators as well as in prices for alternative energy sources and an impact of international businesses whose activities are related to energy, and hence profit indicators.

Unfortunately, there is no separate particular document regulating Indian policy in energy and economic security. However, some regulatory legal acts related to this topic have been developed and are functioning: Hydrocarbon Vision – 2025, Electricity Act – 2003, National Energy Plan, National Action Plan on Climate Change – 2008, New National Electricity Plan – 2018, India Cooling Action Plan – 2019.

On the world energy markets, the weight of the Indian Republic is not significant: the country’s share in terms of proven reserves of crude oil was 0.3% in 2019; the share of countries in the world oil production (in thousand barrels per day) – 0.9%; in the world production of crude oil (in a million tons) – 0.8%; in the consumption of crude oil (in thousand barrels per day) – 5.4 and 5.3%.

In the world oil market, the first two places in terms of consumption are assigned to the world leaders: the United States and China. Mainly, the positions of these countries among world consumers are associated with the scale of GDP (21 and 14 trillion dollars respectively), population size, production capacities, leading positions in the system of international exchange of goods and services. At the same time, OPEC countries (UAE, Saudi Arabia, Iran, Kuwait) are the leading suppliers of this energy asset to the Indian market. In order to reduce the country’s dependence on crude oil supplies, the government is pursuing a policy of forming strategic reserves.

The share of the Indian Republic in the global natural gas market (in terms of proven reserves) is also very insignificant, and in 2019 it amounted to 0.7% (of the global volume of trillion cubic meters). In terms of natural gas production, the country’s share is similar to that of proven reserves (0.7%), while India’s share in world natural gas consumption is two times higher – 1.5%. The key suppliers of natural gas to the territory of the Indian Republic are Qatar, Angola, and Nigeria.

Despite such “insignificant” indicators of the country’s participation in the world oil and gas markets, India occupies one of the critical positions in the world coal market.

Coal continues to be one of the critical resources for power generation in the Indian Republic and neighboring China, which is a global importer and consumer of coal.

India’s share of the world’s proven coal reserves is 9.9%; in terms of production, the country’s share on a global scale is 7.6%; in terms of consumption, India weighs 11.8%.

As already mentioned, the first place in the world coal consumption belongs to the People’s Republic of China, whose share in 2019 was 51.7%, the second place belongs to India. It is coal that accounts for the bulk of electricity generation in the country, and China also takes first place in this indicator (Figure 3).

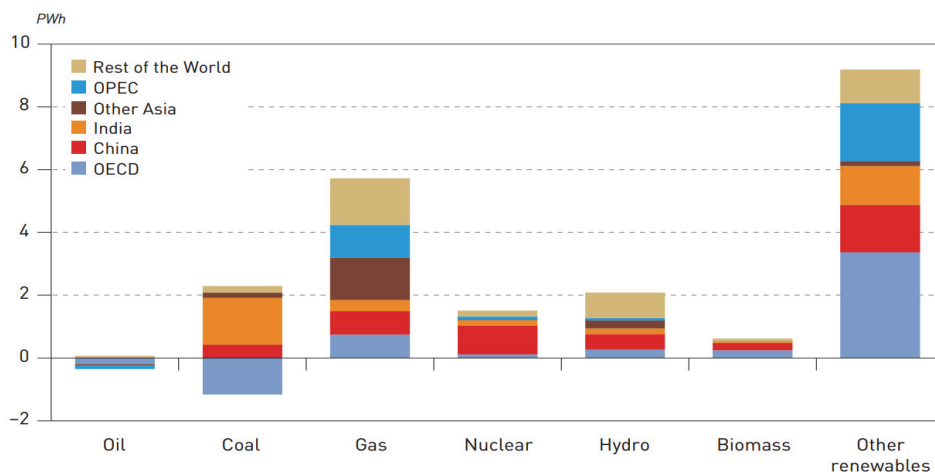


Figure 3. Electricity generation growth by fuel and region in 2019–2045

Source: World Oil Outlook – 2020. Retrieved May 15, 2021, from <https://wo.opec.org/pdf-download/index.php>

The use of rather dirty and waste raw materials in the production process by the most populous countries affects the environment and ecology. In addition, “dirty industries” affect the health sector and increase the number of diseases of the so-called socially significant ailments.

The transition to “clean and green” technologies and types of energy is closely related to large-scale investment injections, which are reflected in the “Investment Consolidated Policy of India.”

Providing the Indian population with affordable electricity is one of the critical items on the country’s political agenda. For the period from 2000 to 2019, about 750 million people in the country gained access to the electricity grid. While endorsing the results of the Indian government, the IEA is pushing for access to electricity for isolated communities and an uninterrupted supply of electricity. IEA experts recommend carrying out reforms in India in electricity, aimed at more profound and more active integration of alternative and renewable energy sources into the country’s energy system since this potential is not fully used in the country.

Liberalization of the Indian economy started with the launch of economic reforms in the 90s. The 20 century was aimed at “opening” the Indian economy, creating favorable conditions for foreign investment and capital inflow into the country (given the lack of these resources).

The liberalization of the investment sphere took place gradually, step by step: more and more sectors were opened, the threshold for foreign investors to enter the industry increased. However, there are still some economic activities, access to which is closed for foreign investors, in particular, these include: lottery business (including state lottery, private lottery, online lottery), gambling business (including casinos), Chit funds, Nidhi companies, trade-in transferable development rights, real estate or farm construction, production of cigarettes and cigarillos from tobacco and tobacco substitutes, sectors closed to private investors (nuclear energy, railways).

The Production, Oil, and Gas sector is an economic activity open to foreign investment. It is one of India's investment policy priorities while paying attention to the need to develop alternative and renewable energy sources. However, entry into the sector has some restrictions, in particular: the threshold for entry into the sector is 100%, subject to agreement with the government authorities (except for oil refining by public sector enterprises, without any investment or dilution of domestic capital in the existing 49% along with an automatic path approval).

The policy directives allow coal to be mined for the necessary and regular use for energy projects in the metallurgical industry and other types of industrial production. Foreign investors are allowed to establish coal processing plants, restricting that the company does not mine and sell coal through its factories.

There are some restrictions on the titanium industry related to technology transfer: FDI in the mining of “prescribed substances” is prohibited, and FDI in the titanium industry must be associated with related industries.

In the context of economic security, the dependence of the Indian Republic on the regular supply of mineral resources and FDI is a rather serious issue. The preconditions for the transformation of India's energy sector into an attractive investment are related to the following factors: The Indian economy is a growing and developing economy (annual GDP growth of 7%), a high population ensures high and stable growth in mineral products and electricity generation. The Indian consumer market is large enough, as evidenced by the growth of the middle class; consumption of mineral products in the country is increasing; the country has operating regimes for support, licensing and production of hydrocarbons.

One of the main problems of the Indian economy is industrial and infrastructural backwardness, significant depreciation of assets, and often a complete lack of technology and any progress (this can be seen both in urban and rural areas).

The country's energy policy in the diversification of suppliers considers the Russian Federation as a potential market for the supply of cheap, affordable, uninterrupted raw materials. However, the “stumbling block” on the development of Russian-Indian energy cooperation is the Indian-Chinese religious-territorial differences and the orientation of the Indian industry to use oil and coal to a greater extent than natural gas. Natural gas supplies are carried out in the liquefied format from Sakhalin. However, the volume of supplies is not sufficient and not to such an extent in demand.

Conclusion

All economic activities of the Indian Republic are experiencing a shortage of energy resources, first of all, oil, and a slowdown in the economic system. Lack of access or limited access to electricity also complicates social progress.

One of the weaknesses of the Indian energy sector is the virtual absence of a legal and regulatory framework governing the monitoring of energy data at the central government level.

Statistics are collected, processed, and published by many central and state agencies. In 2021, the Central Statistical Office began to consolidate all statistical information related to the energy sector. However, the data published by ministries and agencies vary considerably and often do not correspond.

The relative “lack” of complete information does not allow the assessment of the current state of affairs adequately and, accordingly, to develop a set of necessary measures and a regulatory framework in the form of programs, policies, and initiatives.

References

- Andronova, I.V., & Gusakov, N.P. (2015). Prospects for the development of the Eurasian Economic Union in the context of external economic security of the Russian Federation. *RUDN Journal of Economics*, (1), 47–56. (In Russ.)
- Bragina, E.A. (2020). India’s economy under pressure from COVID-19. *Outlines of Global Transformations: Politics, Economics, Law*, 13(5), 128–144. (In Russ.)
- Galisheva, N.V. (2019). The industrial policy as a driver of the Indian economy’s development. *RUDN Journal of Economics*, 27(2), 205–222. (In Russ.)
- Galisheva, N.V. (2020). The role of small-scale industries in achieving the sustainable development: The experience of India. *MGIMO Review*, 13(3), 151–169. (In Russ.)
- Gusakov, N.P., & Konovalova, Yu.A. (2017). The current state and prospects for the Russia-India cooperation in the high technology industries. *Credit and Finance*, 5(725), 292–308 (In Russ.)
- Konovalova, Yu.A. (2021). India on the international market of pharmaceutical goods: Problems and prospects. *Vestnik MIRBIS*, 1(25), 170–180. (In Russ.)
- Konovalova, Yu.A., & Valueva, I.A. (2018). Military and technical cooperation of two regional leaders: New challenges for Russia and India. *RUDN Journal of Economics*, 26(1), 28–37. (In Russ.)
- Malyarov, O.V. (2014). *The state sector of India*. Moscow. (In Russ.)
- Shaumyan, T.L. (2020). BRICS as an important factor in international relations. New and the Newest History, (1), 247–248. (In Russ.)

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