ECOLOGICAL PARAMETER OF COMPARATIVE ANALYSIS OF SIBERIAN ELECTRIC POWER INDUSTRY

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The dilemma of energy choice in a country that has embarked on the implementation of the Spatial Development Strategy is especially relevant for Siberia, which possesses significant resources of hydro carbons and potential of renewable sources of energy (water, wind, sun, biomass). For the last 10 years the biggest growth of energy consumption is being observed in here, which is still being satisfied for 38 % by coal generation, the average age of which is 34–36 years. The urge of Russia to enter the trend of New industrialization and digitalization, and also to adopt to climate changes, encourages faster implementation of renewable energy, which is still expensive, and requires developed infrastructure. Interdisciplinary analysis of energy choice alternatives for Siberia is necessary for efficient respond of Russia for global challenges.

The aim of this article is to compare traditional and renewable power sources in Siberia from the viewpoint of their ecological properties. The results of the conducted comparative analysis demonstrate high level of environment pollution in Siberia due to the use of hydrocarbons. With that the superiority of ecological characteristics of renewable energy is eliminated because of artificial demarcation of ecological and climate problems and spreading skepticism in Russian society in relation to the genesis of these problems on important parameter of choosing the energy sources – ecological property of power sources. A lot of things in Siberia are possible from the viewpoint of resources and ecology. The main thing becomes the long-term goal of producing energy in this mega-region Siberia, which in many ways predetermines the significance of ecological parameters of comparative estimation of perspective power sources.

Key words: Siberia, electroengineering, fuel, renewable sources, ecology, climate changes, social perception.

REFERENCES

- 1. Moiseev, N. I. (2003). Izbrannye trudy: T. 2, Mezhdisciplinarnye issledovaniya global'nyh problem. Publicistika i obshchestvennye problemy [Selected works: Vol. 2, Interdisciplinary research of global problems. Publicism and social issues]. Moscow: Tajdeks Ko Publ., 264 p. [in Russian].
 - 2. Gore, Al. (1993). Earth in the balance: ecology and the human spirit. N.Y.: A Plume Book.
- 3. Suprun V. I. (Ed.). (2018). Sibir' kak megaregion: parametry i celi [Siberia as a megaregion: parameters and goals]. Novosibirsk: FSPI "Trendy" Publ., 192 p. [in Russian].
- 4. Marchenko, O., Savel'yev, V., Podkoval'nikov, S., Solomin, S., & Chudinova, L. (2018). Russia in Eurasian Electric Power Integration. Mirovaya ekonomika i mezhdunarodnye otnosheniya [World Economy and International Relations], 62(6), 18–29 [in Russian].

- 5. Baranov, A. O., Dondokov, Z.B.-D., Pavlov, V. N., & Suslov, V. I. (2018). Prospects for the Development of the Economy of the Republic of Buryatia. ECO [ECO Journal], 10, 77–96 [in Russian].
- 6. Kryukov, V. (2018). Energy and natural resources. In Russia: Strategy, Policy and Administration: Ch. 19 (pp. 205–215). I. Studin (Ed.). Basingstoke Palgrave Macmillan UK.
- 7. Lancet Commision on Health and Climate Change. (October 19, 2017). Retrieved from http://dx.doi.org/10.1016/S0140-6736(17)32345-0.
- 8. Roy, R., & Braathen, N. (2017). The rising Cost of ambient air pollution thus far in the 21st century: results from the BRICS and the OECD countries. OECD Environment working papers: No. 124. Paris: OECD Publ.
- 9. Porfiriev, B. N. (2018). "Green" factor of economic growth in the world and in Russia Problemy prognozirovaniya [Forecasting problems], 5, 3–12 [in Russian].
- 10. Big interview with Academician Favorsky O. about energy. (2018). In Energy saving portal "Energy Council". Retrieved from http://www.energosovet.ru/news.php?zag=1522673166 [in Russian].
 - 11. McNutt, M. (2013). Climate change impacts. Science, 341(6145), 435 p.
- 12. Oreskes, N., &Conway, E. (2010). Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warning. N.Y.: Bloomsburry Press, 355 p.
- 13. Farrell, J. (2016). Corporate Funding and Ideological Polarization about Climate Change. In Proceedings of the National Academy of Sciences of the United States of America (pp. 92–97).
- 14. IEA. Digitalization & Energy. (2017). Paris: OECD Publ. Retrieved from https://doi.org/10.1787/9789264286276-en.
- 15. Victor, D. G., & Yanosek, K. (2017). The next energy revolution. Foreign Affairs, 96(4), 124–131.
 - 16. Birds and wind power. (2018). Nauka i zhizn' [Science and Life], 11, P. 42 [in Russian].

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