

# Systematization of progressive indicators of industrial enterprises' sustainable development

Lubnina A., Shinkevich M., Vodolazhskaya E., Suchkova S., Ishmuradova I., Kharisova G.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

## Abstract

The relevance of the study is conditioned by the modern trends of economic development which suggest that the sustainability of production is possible to provide, while maintaining and enhancing the natural and ecological environment, by looking qualitatively new, revolutionary opportunities, associated with the use of resource-saving and energy-saving technologies, as well as alternative, reproducible sources of industrial activity, the creation of favorable ecological, economic and social conditions for the accumulation and realization of human capital. The purpose of the paper is to systematize progressive indicators of the sustainability of the development of industrial enterprises aimed at increasing the competitiveness of products, the use of innovative energy and resource-saving technologies, minimizing waste generation. The leading method to the study of this problem is the index method, which allows us to consider this problem as a purposeful and organized process to increase the sustainability of the development of industrial enterprises. The paper gives an assessment of the current state of energy consumption of industrial enterprises; a set of progressive indicators of the sustainability of industrial enterprises is suggested. The practical value is that the results of the research make it possible to regulate the sustainable development of industrial enterprises in a better and more targeted way by applying innovative forms of energy and resource saving and can be used in the framework of sector programs, they are of interest to state statistics bodies, as well as ministries and agencies which are responsible for strategic analysis and planning.

---

## Keywords

Ecology, Economy, Production, Resource saving, Sustainable development

## References

- [1] Ermolaeva, P. (2016). The Ecological Culture of Russian and American College Students. *Russian Education and Society*, 56(1), 19-33.
- [2] Galimulina, F.F., Shinkevich, A.I., Komissarova, I.P., Mayorova, A.N., Astafyeva, I.A., Klimova, N.V., Nabiullina, K.R. & Zhukovskaya, I.V. (2016). Technology Platforms as an Efficient Tool to Modernize Russia's Economy. *International Journal of Economics and Financial Issues*, 6(1), 163-168.
- [3] Kat'kalo, B.C. (2003). The initial concepts of strategic management and their modern evaluation. *Russian Management Journal*, 1, 7-30.
- [4] Krugman, P. & Venabies, A. (1995). Globalization and the inequality of nations. *Quarterly Journal of Economics*, 110(4), 857-880.

- [5] Kudryavtseva, S.S., Shinkevich, A.I., Sirazetdinov, R.M., Volov, V.T., Yusupova, G.F., Torkunova, J.V., Khairullina, E.R., Klimova, N.V. & Litvin, I.Y. (2015). A Design of Innovative Development in the Industrial Types of Economic Activity. *International Review of Management and Marketing*, 4, 265-270.
- [6] Lazonick, W. (2006). The theory of innovative enterprise. *Economic Bulletin of Rostov State University*, 4(3), 7-32.
- [7] Leydesdorff, L. (2005). The triple helix model and the study of knowledge-based innovation systems. *International Journal of Contemporary Sociology*, 42, 1-16.
- [8] Lubnina, A.À., Melnik, A.N., Smolyagina, M.V. (2016). On modelling of different sectors of economy in terms of sustainable development. *International Business Management*, 10(23), 5592-5595.
- [9] Malysheva, T.V., Shinkevich, A.I., Kharisova, G.M., Nuretdinova, Y.V., Khasyanov, O.R., Nuretdinov, I.G., Zaitseva, N.A. & Kudryavtseva, S.S. (2016). The Sustainable Development of Competitive Enterprises through the Implementation of Innovative Development Strategy. *International Journal of Economics and Financial*, 6(1), 185-191.
- [10] Mensch, G. (1979). *Stalemate in Technology: Innovations Overcome the Depression*. Cambridge, Mass: Ballinger Publ.
- [11] Perez, C. (1985). *Toward a Comprehensive Theory of Long Waves. Long Waves, Depression and Innovation: Implication for National and Regional Economic Policy*. Laxenburg: IIASA.
- [12] Reznikov, A.A., Kudryavtseva, S.S., Shinkevich, A.I., Sirazetdinov, R.M., Volov, V.T., Torkunova, J.V., Khairullina, E.R. & Litvin, I.Y. (2015). A Design of Innovative Development in the Industrial Types of Economic Activity. *Mediterranean Journal of Social Sciences*, 7(1), 112-125.
- [13] Shinkevich A.I., Chikisheva, N.M., Kharisova, R.R., Fatikhova, L.E., Novikov, A.A., Shiryaev, D.V. (2017). Innovative Collaboration Ensures Industrial Success. *International Journal of Advanced Biotechnology and Research*, 8(Special Issue-1), 164-171.
- [14] Shinkevich, A.I. & Lubnina, A.A. (2011). *Innovative development of chemistry and technology of polymeric and composite materials based on co-competitiveness model*. Kazan: Publishing House of Kazan State Technological University.
- [15] Shinkevich, A.I., Lubnina, A.A., Chikisheva, N.M., Simonova, L.M., Alenina, E.E., Khrustalev, B.B., Sadykova, R.Sh. & Kharisova, R.R. (2016). Innovative Forms of Production Organization in the Context of High-Tech Meso-Economic Systems Sustainable Development. *International Review of Management and Marketing*, 6(2), 219-224.
- [16] Shinkevich, M.V., Shinkevich, A.I., Chudnovskiy, A.D., Kaigorodova, G.N., Ishmuradova, I.I., Bashkirtseva, S.A. & Marfina, L.V. (2015a). Formalization of Sustainable Innovative Development Process In the Model of Innovations Diffusion. *Mediterranean Journal of Social Sciences*, 6, 34-45.
- [17] Shinkevich, M.V., Shinkevich, A.I., Ponkratova, L.A., Klimova, N.V., Yusupova, G.F., Lushchik, I.V. & Zhuravleva, T.A. (2015b). Models and Technologies to Manage the Institutionalization of Sustainable Innovative Development of Meso-Systems. *Mediterranean Journal of Social Sciences*, 6(2), 504-512.
- [18] Silverberg, G. & Verspagen, B. (1995). *Evolutionary Theorizing on Economic Growth*. Maastricht: MERIT.
- [19] Wallerstein, I. (1979). *The Capitalist World-Economy*. New York: Cambridge.
- [20] Williamson, O. (1985). *The Economic Institutions of Capitalism*. London: Free Press.
- [21] Zaraychenko, I.A., Shinkevich, A.I., Shvetsov, M.Y., Erdyneyeva, K.G., Bordonskaya, L.A., Persidskaya, A.E., Rozhkova, S.A. & Afanasyev, A.A. (2016). Innovation Networks Modeling Within the Concept of Open Innovations. *International Journal of Economics and Financial Issues*, 6, 192-198.