

STRUCTURAL AND COMPARATIVE ANALYSIS OF ENERGY CONSUMPTION IN THE UTILITY SECTOR OF UKRAINE

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The article presents the main trends in the development of the utility sector in Ukraine. With the help of structural and comparative analysis, the activity and processes of energy consumption of the utility sector enterprises of Ukraine have been evaluated. It has been stressed that utility companies are natural monopolists and perform socially important functions, such as supply of gas, water, electricity, and provision of transport services. For a 9-year period (from 2012 to 2021), the dynamics of the creation of communal enterprises and condominiums has been assessed and their share in the total number of legal entities of Ukraine has been determined. It is noted that the general trend for the domestic utility sector is a constant increase in the number of condominiums. Such intensification of the functioning of utility sector enterprises is associated with more rational use of resources in the conditions of sustainable development and Industry 4.0, as well as with the creation of a competitive environment in the provision of services for the maintenance of buildings and their territories. A matrix of activation and actualization of the functioning of utility sector enterprises is proposed, which allows monitoring factors that significantly affect their activity at different levels of management. The cost of purchasing energy resources and its impact on the volume of the utility services offered for buildings and their territories has been estimated. An exponential dependence testifies to the effectiveness of using methods to reduce the cost of purchasing non-renewable energy sources and considering the possibility of attracting alternative, green energy sources. The possibility to attract alternative, green energy sources, has been considered in the article. Analytical dependencies have been obtained that allow forecasting the dynamics of changes in the share of utility services offered to houses, utility enterprises and their territories in the total volume of the communal sector of Ukraine, depending on the volume of energy consumption, their sources and cost.

References

1. Piligrim G. (2008). Legal problems of the introduction of concessions in the municipal sector of the economy of Ukraine. *Economics and Law*, no.1, pp. 108-112. URL: <http://economiclaw.kiev.ua/index.php/economiclaw/article/view/917/875>
2. Chernenko N., Moiseienko T., Korohodova O. & Hlushchenko Y. (2021). Analysis of mergers and acquisitions between 2009 and 2020. *Revista Galega De Economía*, 30(4), 1-18. <https://doi.org/10.15304/rge.30.4.7558>
3. Korohodova O., Moiseienko T., Hlushchenko Y. and Chernenko N. (2021). Property relations as a key indicator for formation of investment attractiveness in Next Normality and Industry 4.0. *Economic bulletin of National technical university of Ukraine*

“Kyiv polytechnic institute“, no. 20, pp. 76-82. URL: <http://ev.fmm.kpi.ua/article/view/252850/251610>

4. Kazantseva A. (2018). On centralization of the state regulation functions in the public utilities sector: experience of central and eastern European countries. *Juridical scientific and electronic journal*, no. 5, pp. 81-83. URL: http://www.lsej.org.ua/5_2018/5_2018.pdf#page=81

5. Trofymenko O., Ilyash O., Voitko S., Dluhopolska T., Kozlovskiy S. & Hrynkevych S. (2022). Impact of Energy Innovations on the Ukraine's Economy: Strategic Direction and Managerial Practices. *ECONOMICS*, 0(0) –. <https://doi.org/10.2478/eoik-2022-0018>

6. Zhulin O.V., & Zelenyuk-Jun L.V. (2020). Management of financial resources of communal enterprises and prospects for their development. *Business Inform*, (7 (510)), 174-180.

7. Nechayeva, I.A. (2020). Evaluation of the transparency and openness of the utility enterprise (institution, organization) as a guarantee of effective use of local finances and territorial development. *Problems of economics*, (2 (44)), 265-273.

8. Glukhova V.I. & Kravchenko H.V. (2021). The financial condition of communal enterprises and directions for its improvement, no. 26, 30-36 DOI: [https://doi.org/10.31521/modecon.V26\(2021\)-05](https://doi.org/10.31521/modecon.V26(2021)-05)

9. Bagatska, K.V. (2020). Financial security of utility companies: essential features and assessment methods. *Economy and the state*, (7), 135-139.

10. Yakymova L.P., & Karelova O.V. (2019). Formation of accounting and analytical information of the utility company regarding receivables and payables in the context of ensuring business communication. *Innovative economy*, (5-6), 144-149.

11. Tetia E. and Tuluib S. Do mergers and acquisitions create shareholder value in the infrastructure and utility sectors? Analysis of market perceptions. *Utilities Policy*, vol. 64, 2020. URL: <https://www.sciencedirect.com/science/article/pii/S0957178720300485>

12. Vasi I.B., & King B. (2019). Technology stigma and secondary stakeholder activism: The adoption and growth of clean power programs in the U.S. utility sector. *Socio-Economic Review*, 17(1), 37-61.

13. Simshauser P. (2021). Renewable Energy Zones in Australia's National Electricity Market, *Energy Economics*, vol. 101.

URL: <https://www.sciencedirect.com/science/article/pii/S0140988321003340>.

14. Furlong Kathryn. (2015). Water and the entrepreneurial city: The territorial expansion of public utility companies from Colombia and the Netherlands, *Geoforum*, vol. 58, pp. 195-207, ISSN 0016-7185, <https://doi.org/10.1016/j.geoforum.2014.09.008>

15. Webb B. and Webber S. (2017). The implications of condominium neighbourhoods for long-term urban revitalisation, *Cities*, vol. 61, pp. 48-57. URL: <https://www.sciencedirect.com/science/article/pii/S0264275116304620>

16. Çağdaş V., Paaschbc J.M., Paulsson J., Ploegeref H. and Karaa A. (2020). Co-ownership shares in condominium - A comparative analysis for selected civil law jurisdictions, *Land Use Policy*, vol. 95. URL: <https://www.sciencedirect.com/science/article/abs/pii/S0264837719312761>

17. Madsen M.D., Paasch J.M., Sørensen E.M. (2022). The many faces of condominiums and various management structures. The Danish case. *Land Use Policy*, 120, 106273.

18. Commercial Code of Ukraine no. 436-IV from 16.01.2003, Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/436-15?lang=en#Text>

19. Law of Ukraine “On the peculiarities of the exercise of property rights in an apartment building” no. 417-VIII from 14.05.2015, Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/417-19#Text>

20. Ukraine in figures 2020: statistical publication, State Statistics Service of Ukraine, Kyiv, 2021, p. 23.

21. Ukraine in figures 2019: statistical publication, State Statistics Service of Ukraine, Kyiv, 2020, p. 23.

22. Ukraine in figures 2018: statistical publication, State Statistics Service of Ukraine, Kyiv, 2019, p. 24.

23. Ukraine in figures 2017: statistical publication, State Statistics Service of Ukraine, Kyiv, 2018, p. 109.

24. Law of Ukraine “On Associations of Apartment House Owners” no. 2866-III from 29.11.2011, Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/2866-14?lang=en#Text>

25. Law of Ukraine “On Housing and Utility Services” no. 2189-VIII from 09/11/2017, Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/2189-19?lang=en#Text>

26. Production value of enterprises by type of economic activity in 2012-2020, State Statistics Service of Ukraine, Kyiv. URL: http://www.ukrstat.gov.ua/operativ/menu/menu_u/sze_20.htm

27. Purchases of energy products and payments to subcontractors by type of economic activity in 2012-2020, State Statistics Service of Ukraine, Kyiv. URL: http://www.ukrstat.gov.ua/operativ/menu/menu_u/sze_20.htm

28. Kukharuk, A., Gavrysh, Ju. (2019). Competitiveness of SMEs in Terms of Industry 4.0. Proc. of the Sc. Conf. «2019 International Conference on Creative Business for Smart and Sustainable Growth (CREBUS)», 18-21 March 2019. Bulgaria: IEEE, 1-4. DOI: <http://dx.doi.org/10.1109/CREBUS.2019.8840103>

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