

# Audit of municipal waste as a prerequisite for the development of housing and utilities infrastructure in the circular economy

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## **Abstract**

A high-quality audit of financial statements plays a significant role in increasing confidence in the business of organizations engaged in municipal waste recycling from various economic entities. In turn, the availability of a reliable audit opinion is a successful guarantee in the formation of the investment potential of the region (city) necessary for proper management of municipal waste and the development of housing and utilities infrastructure. In this regard, the purpose of this research is to provide theoretical justification and recommendations for the development of methodology and tools for auditing financial statements of organizations engaged in municipal waste recycling. The developed methodology for auditing financial statements is based on a cyclical approach of disaggregating its indicators. It includes tools for assessing the significant risk of material misstatement and substantive audit response procedures, taking into account the supplementary audit information, which is necessary to obtain sufficient evidence to establish the reliability of the reported data of the audited organizations and express a professional opinion in the audit report. The following methods were used in the study: synthesis, analysis, comparison, logical generalization, grouping, conclusion by analogy, induction, deduction and others.

## **REFERENCES**

1. Resolution of the Council of Ministers of the Republic of Belarus dated 07/28/2017 No. 567 "National Strategy for the Management of solid municipal waste and secondary material resources in the Republic of Belarus for the period up to 2035". Accessed on 2017. [Online]. Available: <https://www.government.by/upload/docs/filea1a9a20a06fc7fe5.PDF>

2. Martinenko, D. Separate garbage collection: which countries should we take an example from? Accessed on 2023. [Online]. Available: <https://sher.media/razdelnyj-sbor-musora-s-kakih-stran-brat-primer/>

3. Panina, I.V. Decomposition of the activity of the audited person to the level of prerequisites. Modern economy: problems and solutions [Dekompozitsiya deyatel'nosti audiruyemogo litsa do urovnya predposylok. Sovremennaya ekonomika: problemy i resheniya]. Vol. 5 (173): pp. 116–128 (2024)

Google Scholar

4. Yuditseva, L.A. Cyclic approach to auditing: essence, meaning, problems [Tsiklicheskiy podkhod k auditu: sushchnost', znachenije, problem]. Kirov. Avers. pp. 94 (2020)

5. Papkovskaya, P.Ya., Masko, L.V. Methodology for auditing transactions with environmental assets and liabilities [Metodika audita operatsiy s ekologicheskimi aktivami i obyazatel'stvami]. Accessed on 2017. [Online]. Available: [https://ibn.idsi.md/sites/default/files/imag\\_file/265-268\\_25.pdf](https://ibn.idsi.md/sites/default/files/imag_file/265-268_25.pdf)

6. Lavrinenko, A.R. Development of accounting and auditing techniques for joint activities under simple partnership agreements [Razvitiye metodik ucheta i audita sovместnoy deyatel'nosti po dogovoram prostogo tovarishchestva]. Novopolock. PSU. pp. 127–130 (2010)

Google Scholar

7. Rybak, T., Lavrentieva, M. The concept of materiality in the audit [Kontseptsiya sushchestvennosti v audite]. Accessed on 2012. [Online]. Available: [https://www.minfin.gov.by/upload/audit/smi/2012\\_20\\_gk.pdf](https://www.minfin.gov.by/upload/audit/smi/2012_20_gk.pdf)

8. Petukh, A.V. Methodology for assessing risks and materiality in the audit [Metodika otsenki riskov i sushchestvennosti v audite]. Accessed on 2012. [Online]. Available: <https://kubsau.ru/upload/iblock/d1c/d1cd9779a70a57b85425fd66cc0999d3.pdf>

9. Shirobokov, V.G., T.I. Loginova. Methodological tools of risk-based audit in agricultural organizations [Metodicheskiy instrumentariy risk-oriyentirovannogo

audita v sel'skokhozyaystvennykh organizatsiyakh]. Accessed on 2018. [Online]. Available: [https://auditfin.com/fin/2018/2/fin\\_2018\\_21\\_rus\\_04\\_02.pdf](https://auditfin.com/fin/2018/2/fin_2018_21_rus_04_02.pdf)

10. Zolotareva, G.I., Denisenko G.V. Mitina, M. O. Methodology for financial control of environmental aspects of the activities of industrial enterprises in the region// Regional economy and management: electronic scientific journal. ISSN 1999-2645. — №4 (64). Art. #6406. Date issued: 23.10.2020. Available at: <https://eee-region.ru/article/6406/>

11. Handbook of International Quality Control, Auditing, Review, Other Assurance, and Related Services Pronouncements. Volume 1 (2020). Accessed on 2020. [Online]. Available: [https://www.ifac.org/\\_flysystem/azure-private/publications/files/IAASB-2020-Handbook-Volume-1.pdf](https://www.ifac.org/_flysystem/azure-private/publications/files/IAASB-2020-Handbook-Volume-1.pdf)

12. The Law of the Republic of Belarus July 12, 2013 «On Auditing Activities». Accessed on 2024. [Online]. Available: <https://pravo.by/document/?guid=3871&p0=h11300056>

13. Malei, A., Trubovich, R. Decarbonization of an economy: creating economic prerequisites through the development of the waste recycling accounting at landfills. BIO Web Conf. International Conference Scientific and Technological Development of the Agro-Industrial Complex for the Purposes of Sustainable Development (STDAIC-2023) Volume 83, (2024) [Online]. Available: [https://www.bio-conferences.org/articles/bioconf/abs/2024/02/bioconf\\_stdaic2024\\_04004/bioconf\\_stdaic2024\\_04004.html](https://www.bio-conferences.org/articles/bioconf/abs/2024/02/bioconf_stdaic2024_04004/bioconf_stdaic2024_04004.html) DOI <https://doi.org/10.1051/bioconf/20248304004>

Google Scholar

14. Trubovich, R. Accounting and analytical support for the activities of organizations engaged in municipal waste disposal and biogas extraction [Uchetno-analiticheskoye obespecheniye deyatel'nosti organizatsiy, osushchestvlyayushchikh zakhoroneniye kommunal'nykh otkhodov i dobychu biogaza]. Bulletin of the Polotsk State University. Volume 2. (2024)

Google Scholar

15. Elder, R., Beasley, M., Hogan, C., Arens, A. Auditing and Assurance Services (International Perspectives). 17 Edition. Accessed on 2024. [Online]. Available: [https://api.pageplace.de/preview/DT0400.9781292312057\\_A39573192/preview-9781292312057\\_A39573192.pdf](https://api.pageplace.de/preview/DT0400.9781292312057_A39573192/preview-9781292312057_A39573192.pdf)

16. Robertson J. Audit. Translated from English; Moscow: KPMG, Audit firm "Kontakt"; p. 496 (1993)

17.M. O'Reilly, Murray B. Hirsch, Philip L. DeFliese, Henry R. Jaenicke  
Montgomery's Auditing, 1993-1994 Cumulative Supplement. Eleventh Edition.  
Wiley. pp. 295 (1994)

Google Scholar

18.Brovkina, N. D. Materiality in the audit. Accessed on 2020. [Online]. Available:  
<https://www.audit-it.ru/articles/audit/a104/40726.html>]

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