

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

SOI: [1.1/TAS](https://doi.org/10.1/TAS) DOI: [10.15863/TAS](https://doi.org/10.15863/TAS)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2024 Issue: 02 Volume: 130

Published: 08.02.2024 <http://T-Science.org>

Issue

Article



A.K. Ruzmamatov
Tashkent institute of finance
Scientific researcher

IMPROVING AUDITING OF ENVIRONMENTAL COSTS OF NEW PROJECTS

Abstract: This article discusses the issues of auditing environmental costs for new projects and their assessment using analytical methods.

Key words: investments, new investment project, environmentally oriented project, performance indicators of investment projects, environmental costs of new projects, audit of costs of new projects, analytical activities.

Language: English

Citation: Ruzmamatov, A. K. (2024). Improving auditing of environmental costs of new projects. *ISJ Theoretical & Applied Science*, 02 (130), 35-40.

Soi: <http://s-o-i.org/1.1/TAS-02-130-5> **Doi:**  <https://dx.doi.org/10.15863/TAS.2024.02.130.5>

Scopus ASCC: 2000.

Introduction

In the sustainable development of regions in our country, it is very important to organize productions with an in-depth study of the effectiveness of new projects from an economic and ecological point of view. In particular, the proper organization of production activities in the economy, ensuring the continuity and growth of new projects depends on the availability of resources. This is related to the adoption of management decisions on the selection of projects aimed at ensuring the harmony of economic and ecological systems in ensuring the stability of territories. In order to make such management decisions, a detailed audit opinion is required to determine the economic efficiency of new projects by taking into account environmental costs and performing analytical operations. The current environmental situation requires conducting an audit, taking into account not only the profit and cash flows, but also the environmental impact of the implementation of projects, when determining the effectiveness of new projects.

It should be noted that there are many ways to evaluate the financial efficiency of investment projects. The method considered in this work takes into account environmental factors and is extremely important for today. Because regardless of the scale of implementation of new projects, the problem of environmental assessment has become very urgent in

Uzbekistan in recent years. In fact, in our country it is required to pay great attention to the environment and even a number of legal documents are being adopted. For example, starting from January 1, 2024, in the design of new objects that fall into category I and category II in terms of environmental impact, the implementation of state ecological and urban planning expertise of projects that do not include the installation of high-efficiency dust-gas cleaning equipment and (or) local water treatment facilities, and it is forbidden to accept completed objects for use without installing them.

Literature review

At a time when the effectiveness of new projects is an important factor in the sustainable development of territories, as well as becoming a solid ground for development, humanity is gaining new knowledge about investments, and now modern authors publish many formulations of the term "investment projects". For example, according to V. V. Bocharov, the object of an investment project is any project that requires a large amount of capital expenditure (both financial and labor) for the implementation of this project. Investment projects often differ from other projects that require less planning and resources in terms of mass and relatively higher costs.

The Law of the Republic of Uzbekistan on Investments and Investment Activities (December 25,

Impact Factor:

ISRA (India)	= 6.317	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 1.582	PIHII (Russia)	= 3.939	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 8.771	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 7.184	OAJI (USA)	= 0.350

2019 No. ORQ-598) defines an investment project as a set of interrelated activities aimed at realizing or attracting investments for economic, social and other benefits. Also, according to this law, investment activity is a set of actions of investment activity subjects related to the implementation of investments, and an investor is an investment activity subject that invests its own funds and (or) loan funds or other investment resources involved in investment activity objects for the purpose of profit.

Any commercial organization invests its resources to acquire various types of assets needed to carry out its core activities. Business entities pursue different goals when deciding on the implementation of one or another investment project. Savchuk V. P. in the book "Preparation and analysis of investment projects" indicates three main goals for the implementation of an investment project: updating the material and technical base, creating new types of products and expanding the production capabilities of the enterprise.

Cash flow has always been a major focus of cost audits for new projects. But today's environmental problems require a slight change in the traditional assessment methodology. According to Wang Chun, a professor at the Faculty of Economics of the China University of Finance and Economics (Xianxi), the method that does not take into account the social and environmental impact of the company's activities is called "extensive".

Research methodologies

In the study, the methods of economic analysis and statistical analysis used in national and international practice were used in the audit of investments in new projects and their important

performance indicators, taking into account environmental costs.

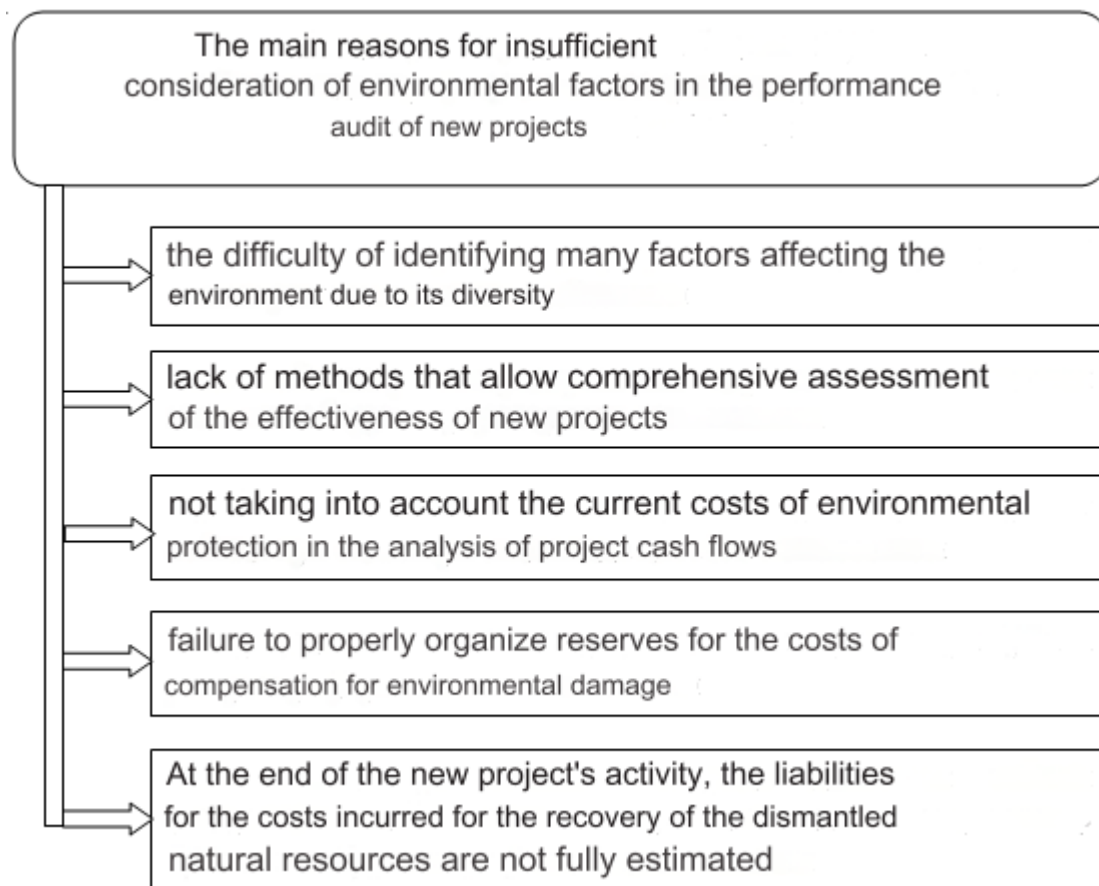
Results and Discussion

Currently, the formation of a "green" economy and transition to its sustainable development is one of the priority tasks both globally and for Uzbekistan. The concept of sustainable development for the future of mankind is an important source, which is reflected in the resolutions and documents of the UN. The modern economy largely depends on compliance with environmental standards and orientation to the international concept of sustainable development. In the period of transition to economic development, the most important condition is an ecologically clean living environment. The implementation of new projects that play an important role in achieving strategic goals will affect it and the state of the ecological-economic system as a whole.

When conducting an audit on the evaluation of the effectiveness of large, socially significant projects, it is necessary to reveal additional information about the consequences of the project for the economy of the region and the country as a whole. In order to ensure sustainable development, it is important that project initiators, investors and permitting state organizations take into account the main aspects of investment projects - economic and environmental efficiency. Currently, the methods used to increase the responsibility of enterprises for environmental protection do not give the desired results. The following reasons can be given for insufficient consideration of environmental factors when conducting audits on the assessment of the effectiveness of new projects (Chart 1):

Impact Factor:

ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИИ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350



Drawing 1. Main reasons for insufficient consideration of environmental factors in performance audits of new projects

When conducting an audit on the evaluation of the effectiveness of new projects, expressing the results of environmental costs in monetary form and reflecting them in one cash flow allows:

- Determining the relationship between the amount of costs and the results of environmental protection activities;
- Determining the optimal level of the ratio of these indicators to achieve the required level of environmental safety of the project;
- Calculating the amount of economic benefit seen in the long-term strategy as a result of environmental costs;
- Determination of integrated cost-effectiveness indicators for environmental protection activities.

The listed cases determine the need to develop an economic-ecological assessment methodology when conducting an audit on the assessment of the effectiveness of investment projects. Such an assessment allows to determine the effectiveness of the project by calculating the consequences of the impact on the ecological environment in monetary terms and drawing a conclusion about the feasibility and possibilities of its implementation. It will be possible to determine the economic efficiency and

priorities of the projects, and to assess the impact on the environment.

Businesses today must care not only about sales volume and profits, but also about minimizing the negative effects of production on the environment and have plans for environmental protection. In order to comply with environmental standards, project initiators need to use the latest equipment and regularly modernize the production process. The initiators of the project should take responsibility for maintaining a comfortable environment, rational use of natural resources, dismantling of equipment at the end of the project. Legal obligations to restore the environment can arise in two situations. First, it arises in connection with the requirements of the legislation of the area where the project is implemented, the contracts and license agreements concluded on the extraction of underground resources, and the terms of the project documents agreed with the state authorities. The second is constructive (voluntary) and can come from published environmental policies, past practices, management statements published in the media, etc. A liability for environmental remediation is recognized when it is probable that the remedial action will take place and the related costs can be measured reliably. There should usually be a formal

Impact Factor:	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	PIHIQ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

plan to recognize such a liability. Environmental obligations in new projects arise in two cases:

- during production activities;
- during project termination after the completion of the production process.

Of course, these actions and costs will affect the audit conclusion on cash flows, profits and losses, and the cost effectiveness of new projects, and ultimately the selection of projects.

Two methods are used for financial evaluation of economic efficiency of new projects - Non DFC (Non Discounted Cash Flow) and DCF (Discounted Cash Flow). The undiscounted cash flow method is a statistical valuation method that does not take into account changes in the value of money over time. And when evaluating project efficiency in terms of discounted cash flows, it takes into account the change in the value of money over time. The following indicators can be used when conducting an audit to assess the cost effectiveness of new projects:

- "normal" payback period (PP - Payback Period);
- discounted payback period (DPP - Discounted Payback Period);
- investment profitability coefficient (ROI — Return on Investment);

- coefficient of profitability index of investments (PI — Profitability Index);
- internal rate of return (IRR — Internal Rate of Return)

- net present value (NPV - Net Present Value).

Most methods for determining the economic efficiency of investment projects are based on the calculation of net present value (NPV). If we add the environmental costs of the project and the benefits from it based on the standard indicators used in the financial evaluation of the economic efficiency of the projects, we will get a new indicator of the financial evaluation of the economic efficiency of the projects - environmental net present value (ENPV - Environmental Net Present Value). Accordingly, even if NPV>0, the selection criteria for evaluating the economic efficiency of new projects taking into account environmental factors will be as follows: if ENPV>0, the project can be accepted; if ENPV<0, the project should be rejected. When choosing between two mutually exclusive projects, the project with the highest ENPV should be chosen. Below, we consider the role of the environmental net present value (ENPV) indicator in the financial assessment of economic efficiency in the audit of new project costs using an example:

Table 1. Information on calculation of NPV and ENPV indicators for a new project, in USD

Period	Net cash flow excluding environmental costs	Net current environmental costs	Net cash flow including environmental costs	NPV	ENPV
0 years	-5,300,000		-5,800,000		
1 year	470,402	30,000	440,402	-4,866,450	-5,394,100
2 years	998,653	60,000	938,653	-4,018,139	-4,596,756
3 years	1,179,695	70,000	1,109,695	-3,094,547	-3,727,967
4 years	1,268,734	80,000	1,188,734	-2,179,060	-2,870,207
5 years	1,358,763	90,000	1,268,763	-1,275,421	-2,026,422
6 years	1,357,774	100,000	1,257,774	-443,180	-1,255,475
7 years	1,539,805	110,000	1,429,805	426,696	-447,741
Total	8,173,826	540,000	7,633,826	426,696	-447,741

The investment at the beginning of the project is 5,300,000 USD, and the environmental costs at the beginning of the project are 500,000 USD, the discount rate is 8.5%.

From the data in the table, it can be seen that even if the NPV is positive (426,696), the project

should be rejected because the environmental net present value ENPV is negative (-447,741), which means that the project is not economically efficient considering the environmental costs.

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
PIHII (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

When new projects start operating in accordance with environmental standards, their costs will certainly increase, but such projects may be supported by the state and given a number of benefits and reliefs. Also, if the project initiators are interested in the long-term perspective of working in the selected area, they should implement the project in accordance with environmental standards and take into account the environmental requirements of the local population in the area. Then the suspension of the activity of new projects due to non-fulfillment of environmental requirements will be prevented, because the legislation provides that the activity of objects that have a harmful effect on the environment can be limited or suspended according to the decision of specially authorized state bodies.

Based on the above comments, the following proposals were developed to improve the audit of environmental costs of new projects implemented in our country:

1. Development of special plans and model forms of the program, taking into account the audit of environmental costs, and their implementation.

As a result: accounting of environmental costs in the process of auditing costs related to the launch of new projects by auditing organizations will be improved, and the time spent on auditing will be reduced, as well as the effectiveness of audit results will be increased.

2. In any method of analytical operations during the audit of new projects, the costs of environmental protection measures that may arise during the implementation of the project and reserves for them are not taken into account. Therefore, when giving an audit opinion on the effectiveness of new projects, it is necessary to take into account the data used as a basis for calculating the indicators, the factors and risks affecting them, and the costs of environmental protection measures and the reserves for them in the analytical operations carried out to calculate the following:

- "normal" payback period (PP - Payback Period);
- discounted payback period (DPP - Discounted Payback Period);
- investment profitability coefficient (ROI — Return on Investment);
- coefficient of profitability index of investments (PI — Profitability Index);
- internal rate of return (IRR — Internal Rate of Return)
- net present value (NPV - Net Present Value).

As a result:

- first, it becomes possible to determine the real performance indicators of the new project;
- secondly, the auditor is prevented from giving a positive conclusion to a project that is

ineffective, taking into account the costs of environmental protection measures and reserves for them;

- thirdly, it is avoided that the government chooses a project that is ineffective, taking into account the costs of environmental protection measures and reserves for them;

- fourthly, the investor is prevented from investing in a project that is ineffective, taking into account the costs of environmental protection measures and reserves for them.

Conclusion

The complexity of presenting the environmental consequences of the implementation of new projects in the form of money shows the importance of carefully evaluating the environmental costs and their probability of occurrence with professional judgment before the start of the project implementation. Due to the risk of accumulating negative environmental consequences towards the end of the project's life cycle, the importance of the project termination phase increases and requires a lot of attention. In this regard, as a result of the audit conducted to assess the economic efficiency of new projects, taking into account the environmental costs, the following will be achieved as a result of the organization and improvement proposals on the basis of a special plan and program:

1. On the basis of a special plan and program developed for the audit of costs related to the launch of new projects, the audit of environmental costs of new projects will be improved, and the time spent on conducting audits will be reduced, as well as the effectiveness of audit results will be increased.

2. Performance indicators of new projects ("Normal" payback period (PP - Payback Period), discounted payback period (DPP - Discounted Payback Period), return on investment (ROI), return on investment (PI — Profitability Index), internal rate of return (IRR — Internal Rate of Return), net present value (NPV — Net Present Value)) as a result of providing an audit opinion by analyzing the environmental costs, as well as the formation of reserves for them it becomes possible to determine efficiency indicators, and the auditor is prevented from giving a positive conclusion to an ineffective project, taking into account the costs of environmental protection measures, as well as reserves for them, the directorate considers the costs of environmental protection measures, as well as selection of an inefficient project taking into account reserves is avoided, costs of environmental protection measures by the investor, as well as investments into an inefficient project taking into account reserves are avoided.

Impact Factor:

ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИИ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

References:

- (n.d.). *Decree of the President of the Republic of Uzbekistan dated 07.06.2022 No. PF-165 "On approval of the innovative development strategy of the Republic of Uzbekistan in 2022 - 2026"*. Retrieved from <https://lex.uz/docs/6102462>
- (n.d.). *Order of the Minister of Finance of the Republic of Uzbekistan on recognition of the text of international financial reporting standards and explanations for use in the territory of the Republic of Uzbekistan, registered on 09.12.2022, list number 3400*. Retrieved from <https://lex.uz/docs/6312360>
- (n.d.). *Decree of the President of the Republic of Uzbekistan dated September 8, 2022 No. PF-215 "On measures to improve the activities of the direct investment fund of the Republic of Uzbekistan"*. Retrieved from <https://lex.uz/docs/6185471>
- (n.d.). *Decree of the President of the Republic of Uzbekistan dated 30.10.2019 No. PF-5863 "On approval of the concept of environmental protection of the Republic of Uzbekistan until 2030"*. Retrieved from <https://lex.uz/uz/docs/4574008>
- (n.d.). *Law of the Republic of Uzbekistan. About accounting. No. ORQ-404, 13.04.2016*.
- (n.d.). *Law of the Republic of Uzbekistan. About investments and investment activities. N O'RQ-598, 25.12.2019*.
- Bocharov, V.V. (2000). *Investment management: Textbook*. manual. (p.160). St. Petersburg: Peter.
- Savchuk, V. P. (2012). *Analysis and development of investment projects: Textbook*. manual for universities / V. P. Savchuk, S. I. Prilipko, E. G. Velichko. Absolut-V, 302 p.
- Jia, X., Cui, Y., Patro, R., Venkatachalam, S., Kaday, R., & Turayevich, J. (2023). Application of fractional-order nonlinear equations in coordinated control of multi-agent systems. *Nonlinear Engineering*, 12(1), 20220335. <https://doi.org/10.1515/nleng-2022-0335>
- (2012). WAN Chun, *Economy School, Jiangxi University of Finance and Economics, P.R.China, «Financial Evaluation of Investment Projects from the Angle of Ecology»*.
- Birman, G., & Schmidt, S. (2002). *Economic analysis of investment projects*. Per. from English ed. LP White. - M: Banks and exchanges, UNITY.
- Chuprikova, Z.V. (2016). *Audit of investment projects. Tutorial*. (p.122). M.: MIIT.
- Babaev, Yu. A., & Petrov, A. M. (2018). *International Financial Reporting Standards (IFRS)*. (p.398). M.: University textbook: INFRA-M.
- Melnik, M.V. (2020). *Analysis of the financial and economic activities of the enterprise. Tutorial*. (p.208). M.:FORUM: INFRA-M.
- Tuychiev, A., Koziev, I., Avlokulov, A., Sherimbetov, I., & Avazov, I. (2019). *Audit*. Textbook. (p.530). T.: "Economy-Finance".
- Rakhimov, M. Yu., et al. (2021). *Economic analysis*. Textbook. (p.492). T.: Nihol-Print.
- Kuziev, I.N., Hamdamov, B.K., Avazov, I.R., & Ochilav, F.Sh. (2021). *Auditing harko standardlari. Electron darslick*. -T.: TMI.
- Trofimova, L. B. (2019). *International financial reporting standards: textbook and workshop for bachelor's, specialist and master's degrees*. — 5th ed., rev. and additional. (p.242). M.: Yurayt Publishing House.
- Sheremet, A. D. (2021). *Analysis and diagnostics of financial and economic activities of an enterprise*. Textbook. (p.374). M.:INFRA-M.
- (n.d.). *national database of legislative information of the Republic of Uzbekistan* Retrieved from <https://www.lex.uz>
- Turayevich, J. I., & Akmal o'g'li, S. M. (2023). Investitsion loyihalarni moliyalashtirishda tiklanish va taraqqiyot jamg'armasining o'rni. *Pedagogs jurnali*, 35(4), 147-157.
- Jumaniyozov, I. T. (2021). The Progressive Foreign Experiments in the Activity of Sovereign Wealth Funds. *Annals of the Romanian Society for Cell Biology*, 109-116.
- Jumaniyozov, I. (2018). Impact of Development Finance Institutions on Economic Growth: Implications for Reconstruction and Development Fund of Uzbekistan. *International Journal of Management Science and Business Administration*, 4(2), 84-88.
- Jumaniyozov, I. (2020). Issues of ensuring the transparency of sovereign wealth funds. *International Finance and Accounting*, 2020 (5), 1.
- Jumaniyozov, I. (2020). Foreign experience in the activities of sovereign funds. *International Finance and Accounting*, 2020(2), 1.
- Jumaniyozov, I. T. (2021). Transparency Is A Key Indicator Of The Activity Of Sovereign Wealth Funds. *The American Journal of Management and Economics Innovations*, 3(05), 30-37.