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### COST CALCULATION IN GEOLOGICAL EXPLORATION WORK

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#### Abstract:

The article outlines the specific features of cost accounting in geological exploration work, the procedures for classifying costs, and the accounting procedures. Scientific proposals and practical recommendations for improving cost management in the geology sector have been developed.

**Keywords:** Geological exploration, costs, product cost, calculation, direct costs, fixed costs, variable costs

#### Introduction

In Uzbekistan, expanding the mineral raw material base and attracting investments to the geology sector is one of the priority directions of state policy. Since geological exploration work (GEW) is characterized by a high degree of uncertainty and financial risk, the issue of proper cost classification and capitalization remains a pressing one. The necessity of aligning the existing national accounting system with international standards (IAS 6 – “Exploration and Evaluation for Mineral Resources”) is the main foundation of this scientific work.

Geological exploration (GQI) stands out from other industrial sectors for its high risk, uncertain outcomes, and capital intensity. These characteristics require special approaches in accounting. The unique nature of geological exploration work, the uncertainty of its results, and the fact that expenditures do not always



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---

lead to the discovery of profitable mineral deposits. This creates complexity in recognizing exploration and evaluation ( ) expenses as either an asset or an expense. Seasonality-work in certain regions is only conducted during specific times of the year - also requires a special approach to allocating labor costs and equipment depreciation. From this perspective, establishing and improving cost accounting in the field of geology is a pressing issue.

### **Review of literature**

Based on the research conducted, the concept of expenses is discussed below, taking into account the specific features of expense accounting in the field of geology. In the National Accounting Standard, expenses are defined as follows: “Fair presentation requires that the effects of transactions, events, and conditions be properly reflected in accordance with the definitions and recognition criteria for assets, liabilities, revenues, and expenses set forth in the Conceptual Framework for Financial Reporting and Presentation”[1].

In addition, various aspects of expenses are governed by the following standards, including: IFRS 1 (“Accounting Policies and Financial Reporting”), which sets out the general principles for the recognition and measurement of expenses, and IFRS 21 (Accounting Policies) specifies how to present expenses in the accounting entries (for example, 9400-“Period Expenses” or 9100-“Cost of Goods Sold”) and IFRS 24 (“Interest Expense”) explain the procedure for capitalizing or expensing interest and loan-related costs.

In Russia, the fundamental definition of an expense is provided in ПБУ 10/99, which is almost identical to the Uzbek standard. FASB 14/2022, on the other hand, regulates when expenses related to intangible assets should be recognized as an asset and when they should be expensed to the income statement [2].



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In Kazakhstan, however, in accordance with the National Financial Reporting Standard (NFR/NFS), expenses are defined as follows: “Expenses are a decrease in economic benefits during the reporting period in the form of an outflow or an exhaustion of assets or an emergence of a liability, this results in a decrease in equity, not in connection with the distribution of capital among the entities (participants)”[3].

In the legislation of the Republic of Uzbekistan, particularly in the areas of accounting and taxation, there are two approaches to the concept of expenses:

1. According to the National Accounting Standards (NAS), expenses are the decrease in economic benefits during the reporting period in the form of an outflow or reduction of assets or an increase in liabilities. In this case, expenses reduce the company's capital and are subject to income tax. Situations involving the distribution of capital among founders (shareholders) (for example, paying dividends) are not considered expenses.

2. According to the Tax Code, for the purposes of calculating profit tax, expenses are divided into deductible and non-deductible categories[4].

Economists have also approached expenses in different ways; for example, A. Karimov divides them into two types: direct and indirect, and also notes that conditional fixed costs are of particular importance [5].L.P. Krasnova, on the other hand, defines costs as “the reduction of economic benefit resulting from the outflow of assets (cash funds, other property) or the emergence of liabilities during the reporting period, which leads to a decrease in the enterprise's capital” [6]. defined. This definition primarily distinguishes between costs as manufacturing costs (which form the product's cost of goods sold) and period costs (related to selling and administrative activities). This approach is consistent with the definitions in international standards and the national accounting system.



## **International Congress on Economics, Management and Business Studies**

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Numerous scientific studies and research have been conducted in our country on the methodology for accounting for, analyzing, and auditing expenses. In some of these, costs have been approached as intellectual capital, while other economists have studied them by industry and sector.

M.K. Pardaev: “The article highlights the cost items that form the cost of goods (work, services), their dependence on production volume, and methods for assessing efficiency” [7]. According to A. Ibragimov, auditing is not only the process of searching for errors but also of providing reliable information about business activities and confirming the efficiency of resource use.

N. Karimov’s research (especially in the case of banks and large enterprises) highlights the role of internal audit in risk management. He describes internal audit as a primary means of preventing internal fraud and strengthening internal control [8].

In his monograph “Theoretical and Practical Issues of Cost Accounting and Analysis”, A.I. Alikulov proposes a systematic classification of costs based on their economic content, role in production, and method of calculation. This involves classifying costs as direct (indirect) and indirect, as well as, shows the methodological basis for including them in the product cost and is aimed at demonstrating scientifically sound ways to increase a company’s profit through cost optimization and cost reduction [9].

As a result of the conducted research, the following definition was given for costs in the field of geology: “In geological exploration (GE), costs are the monetary expression of all material, financial, and labor resources expended for the study of the Earth's crust, the search for mineral deposits, the , and the industrial-scale confirmation of their reserves”.



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### **Methodology**

In writing this article, general economic and logical methods were used: systematic analysis, induction and deduction, comparative analysis, accounting and financial analysis methods: capitalization, “Successful Efforts” (Successful Efforts), impairment test, special audit and control methods: risk-based audit, selective monitoring, digital and technological methods: GIS monitoring (Geographic Information Systems).

### **Analysis and Results.**

In accounting, costs are understood as the money required to pay for consumed resources or for goods and services. For management, it is not just expenses in general that are needed, but information about the costs of a specific item (product, product group, service), i.e., information about costs for a “cost accounting object”.

Costs are the monetary expression of the volume of resources used for specific purposes, and the purpose is any activity for which costs are measured separately. A product, workshop, sales area, or any other identifiable activity can serve as an example.

Product-related costs and period costs

Product-related costs are associated with the production of finished goods. These costs are included in the cost of goods sold. The costs that make up the production cost of a product are grouped by their economic nature into the following elements:

production material costs (excluding the value of returned scrap);

labor costs of a manufacturing nature;

social insurance contributions related to production;

depreciation of fixed assets and intangible assets with a production purpose;



## **International Congress on Economics, Management and Business Studies**

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Website: <https://econferencia.com>

---

other expenses of production significance.

Costs associated with selling products – these are the company's expenses for selling and marketing its products.

Administrative expenses are those related to the company's general activities (for example, administrative staff salaries, depreciation of administrative buildings and office equipment, and similar expenses).

Classification of costs for decision-making

a) Total and average costs

Total costs are the costs for a product or for the entire enterprise.

Average costs are the costs per unit of product.

b) Cost Behavior

Cost variation refers to how costs change when the level of activity changes.

Fixed costs remain unchanged when the level of activity changes; they are relatively constant. However, when the level of production changes, the fixed cost per unit also changes: Depreciation, lease expenses, and asset insurance, as well as administrative costs, are examples of this.

Variable costs depend on the volume of production. The amount of variable costs changes proportionally with changes in the volume of production (level of business activity) and is a constant amount per unit of product. Raw materials, the labor of main workers, and commission expenses can be examples of this.

c) Opportunity costs

Opportunity costs are the costs of forgone opportunities. They represent the benefit lost when choosing one course of action over another.

d) Sunk costs

sunk costs – these are costs that have already been incurred. Therefore, they do not affect future costs, and no current or future action can change them. Examples include the initial cost of equipment (originally purchased) and the costs incurred



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---

to create material inventories. The costs of acquiring purchased inventory and equipment cannot be changed by any future actions, even if they are not currently being used. For this reason, these costs are not taken into account when making future decisions.

### d) Relevant and non-relevant costs and revenues

Relevant costs and revenues are those costs and revenues that are expected in the future and cannot be changed by any future actions. (or future period costs and revenues, or significant costs and revenues) are the costs and revenues that change as a result of the decision being made. Expenses and revenues that are not affected by the decision being made are irrelevant, i.e., they are not relevant (insignificant) expenses and revenues.

Manufacturing overhead costs (MOC) are a collection of various expenses related to production that cannot typically be directly attributed to a specific type of finished product.

### 1) Manufacturing overhead distribution base

The allocation of overhead costs is carried out by selecting a common base for all products manufactured by the company or for the services the company provides to its customers.

The distribution base should be selected based on the factor that most closely corresponds to the overhead costs of the production departments. The base most often includes the following:

- Workers' labor hours in production
- Equipment run time
- Labor Costs
- Units of Product



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$$\text{Allocation rate of UDH} = \frac{\text{Overhead costs}}{\text{Value of the base}}$$

GCI costs, by their economic nature, are fundamentally different from ordinary production costs and encompass the following key aspects:

The components of the costs are formed incrementally during the E&D process. Specifically,

Legal and preparatory costs include the costs of acquiring the right to use the subsoil (auction fees, bonuses), licensing, and preparing project-budgetary documentation.

Fieldwork costs include expenses related to geological mapping, geophysical and geochemical surveys, drilling operations, and mine shaft development.

Laboratory and office costs for analyzing the collected samples, conducting mineralogical tests, and preparing the final geological reports.

Environmental and reclamation costs are reserves set aside for the post-project reclamation of land and compensation for environmental damage.

In international practice (including IFRS 6), there are two main approaches to recognizing exploration and evaluation (E&E) expenses.

The Successful Efforts method recognizes as an asset (capital) only the costs of a prospect that has been discovered and is proven to be economically viable. Exploration costs that are unsuccessful are expensed in the period in which they are incurred.

The Full Cost method capitalizes all costs in a given area (regardless of the outcome) and adds them to the cost of the product extracted in the future.

Investment Characterization: GCI expenditures are not merely “expenses” but are considered investments, because these costs result in the formation of the



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---

company's primary asset—useful mineral reserves. Under Uzbekistan's new tax and mining legislation, funds directed to E&D are considered an intangible asset that can be deducted from the taxable base in the future or depreciated.

The most significant characteristic of E&D expenses is the element of commercial risk. Due to the high probability that the funds spent will not be “recoverable”, the principle of prudence is important in managing these expenses. In E&P, costs are the price paid to acquire “geological information” and “proven reserves”, which are sources of future income.

Classification of exploration expenses is important for their proper accounting, taxation, and assessment of economic efficiency. Based on the new edition of the Republic of Uzbekistan’s “On Subsoil” Law and international standards (IFRS 6), expenses are divided into the following main groups. Specifically,

1. By recognition method (per IFRS and US GAAP), this is the most important classification, determining whether the expense is recognized as an asset or a loss. Capitalizable expenses (Assets) are costs incurred at a stage where the probability of mineral discovery is high. They are reflected on the balance sheet as “Intangible Assets” or “Work in Progress”.

Period expenses (Losses) are costs incurred before obtaining the right to exploit the subsurface, or expenses related to unsuccessful (dry) wells.



## International Congress on Economics, Management and Business Studies

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**Table 1 Interrelationships and Differences Between National (GASB) and International (IFRS 6) Standards for Accounting for Exploration and Development Costs<sup>1</sup>**

Comparative Criteria	NGAAP (National Accounting Standards)	IFRS 6 "Exploration for and Evaluation of Mineral Resources"
<b>Recognition timing</b>	Expenses are recognized as such in the period they are incurred or are capitalized within the project budget.	Only costs incurred after obtaining <b>the legal permit</b> for subsurface exploitation are capitalized.
<b>Capitalization Method</b>	Essentially, it is similar to the " <b>Full Cost</b> " method. All expenditures are accumulated as assets.	There are two options: the <b>Full Cost</b> method or the <b>Successful Efforts</b> method.
<b>Determining the type of asset</b>	Expenses are recorded as "Work in Progress" or "Intangible Assets."	Assets are classified as <b>tangible</b> (well, equipment) or <b>intangible</b> (license, map) based on their nature.
<b>Impairment test</b>	Impairment of assets is tested only in rare cases and only at year-end.	As soon as it becomes clear that the exploration has yielded no results, the asset must be tested <b>for impairment</b> and written down.
<b>Restoration Obligation</b>	Reclamation costs are usually recognized as actual expenses upon completion of the work.	<b>A provision</b> is established for future reclamation costs and added to the asset's carrying amount.

<sup>1</sup> Author's work based on research results.



## **International Congress on Economics, Management and Business Studies**

Hosted Online from New York, USA

Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

The advantage of the Successful Efforts method is that it is more widely used in international practice (IFRS). Under this method, if the exploration is unsuccessful, the costs are immediately expensed to the income statement (P&L). This shows investors the company's true financial position.

Classification of assets. According to International IFRS 6, the division of G&E assets into tangible and intangible clarifies the procedure for calculating depreciation. It is advisable for geological companies in Uzbekistan to develop an internal accounting policy for implementing the "Successful Efforts" method when transitioning to IFRS.

According to the E&P phases (Technological Classification), costs are allocated as follows based on the sequential nature of the work.

Pre-exploration costs include expenses for regional area studies and obtaining legal permits, while exploration and evaluation costs cover topographic, geological, and geophysical surveys, sampling and drilling costs, and pre-feasibility study costs to assess the commercial viability of mining the deposit.

It is crucial to classify exploration activities (G&E) in stages in accordance with IFRS 6 requirements. This is because the recognition and capitalization (accumulation as an asset) procedures differ at each stage.

The entire natural resource exploration process is divided into several stages by the Standard:

1. Pre-exploration activities, which continue until the purchase of legal rights to exploit the plot.
2. Exploration and evaluation of the natural resource reserves on this plot.
3. Processing the mine where the resources are extracted and extracting the resources.
4. Reclamation of the site after resource extraction.



## International Congress on Economics, Management and Business Studies

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Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

The following has been prepared based on Uzbekistan's current geological industry standards and the requirements of IFRS 6 (IAS).

**Table 2 Technological classification of costs by stages of geological exploration work<sup>2</sup>**

EG&S Phase	Nature of Work (Technological Process)	Economic nature of expenses	Accounting Treatment (GAAP/IFRS)
<b>1. Regional geological survey</b>	General geological mapping (1:200,000), analysis of aerial imagery, and preparation of prospectivity maps.	<b>Pre-exploration costs.</b> The exact mineral deposit has not yet been defined.	Usually written off as <b>period expenses</b> . Not capitalized.
<b>2. Exploration and Preliminary Assessment</b>	Prospect identification, geophysical and geochemical exploration, surface trenching, and initial drilling.	<b>Direct exploration costs.</b> Aimed at proving the existence of the deposit.	<b>Capitalized expenses.</b> Accumulated as "Exploration and Evaluation Assets".
<b>3. Detailed Exploration (Assessment)</b>	Drilling a dense grid to define the ore shape and calculate its reserves, sampling, and laboratory analyses.	<b>Costs for reserve confirmation.</b> A Pre-Feasibility Study (PFS) is prepared.	<b>Recognized as an asset.</b> If proven commercially viable, it is transferred to the "Mining Asset."
<b>4. Design and Construction</b>	Infrastructure development for mine opening, construction of mine facilities, and industrial testing.	<b>Capital expenditures.</b> Preparation for production start-up.	Capitalized as <b>Property, Plant, and Equipment</b> (Work in Progress).
<b>5. Project Completion and Reclamation</b>	Upon completion of work, environmental remediation of the site and well conservation.	<b>Environmental liabilities.</b> Future mandatory expenditures.	Added to the asset's cost and formed as a <b>reserve</b> .

<sup>2</sup> Author's work based on research results.



## **International Congress on Economics, Management and Business Studies**

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Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

The point at which costs are capitalized for an asset is typically begins in Phase 2 (after the right to exploit the subsurface is obtained). Phase 1 costs, however, are considered “exploration risk” for the investor or the state and are expensed directly.

Due to technological continuity, if a negative result is obtained in Phase 2 (i.e., no ore is found), all capital expenditures incurred up to that point must be written off as impairment.

3. By economic elements (Budget Composition), in accordance with the current regulatory documents of Uzbekistan, expenses are classified in the budget as follows.

Wages for geologists, drillers, and technical staff, fuel and lubricants, spare parts for drilling equipment, chemical reagents, Depreciation for special equipment and devices used in GKI, as well as transportation services, laboratory analyses, and the work of contractor organizations.

This classification is based on the Regulations of the Republic of Uzbekistan “On the Composition of Expenses Included in the Cost of Products (Works, Services)” and sectoral guidelines. Specifically:

costs included in the production cost of the product:

- a) direct and indirect material costs;
- b) direct and indirect labor costs;
- c) other direct and indirect expenses, including overhead expenses of a production nature;

expenses not included in production cost, but accounted for in profit from main activity and included in period expenses:

- a) selling expenses;
- b) administrative expenses;
- c) other operating expenses and losses.



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**Table 3 Budget breakdown by economic elements for geological exploration costs<sup>3</sup>**

Name of Economic Element	Main Expenses Included in the Cost Estimate	Specific feature in G&R
<b>1. Material Costs</b>	Fuel and lubricants (F&L), drill bits, reagents, chemicals, explosives, special clothing.	They account for the largest share in the GCI (especially during the drilling phase). In expeditionary conditions, transportation costs are also included.
<b>2. Labor costs</b>	Wages for geologists, geophysicists, drillers, drivers, and technical staff, as well as allowances (field pay, expedition allowance).	High coefficients are applied due to the seasonal nature of the work and its execution in remote areas.
<b>3. Social insurance contributions</b>	Social insurance contributions calculated at a fixed rate (12% or 25%) on the wage fund.	It is formed in direct proportion to the wage fund.
<b>4. Depreciation of fixed assets</b>	Depreciation amount for drilling rigs, laboratory equipment, specialized machinery, and field camps.	Accelerated depreciation may be applied due to the equipment operating in harsh climatic and geological conditions.
<b>5. Other operating expenses</b>	Payments for the right to exploit the subsurface (bonus, auction), lease payments, communication services, and expert review of project exploration work.	Here, the costs of obtaining permits for the GCI (as an intangible asset) play an important role.

<sup>3</sup> Author's work based on research results.



## International Congress on Economics, Management and Business Studies

Hosted Online from New York, USA

Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

4. Under IFRS 6, tangible assets include drilling rigs and specialized transportation equipment, while intangible assets include exploration rights (licenses), geological maps, and drilling data.

5. For tax purposes (Under the Tax Code) Deductible expenses are expenses that are subtracted from total income when calculating profit tax, and depreciable expenses are capital expenditures that are expensed in installments over a certain period (usually 5-15 years).

Such classification of expenses allows the company to see which projects are profitable, optimize its tax burden, and prepare a transparent report for investors.

**Table 4 Taxation and incentives for geological exploration expenditures<sup>4</sup>**

Tax Type / Expenditure Category	Benefit and Application Procedure	Normative Basis
<b>Corporate Income Tax (Deductions)</b>	All expenses incurred for G&E (regardless of whether a deposit is subsequently discovered) are deducted from total income.	Tax Code, Article 305
<b>Depreciation (Depreciation Rate)</b>	G&I expenses are depreciated as a "non-property asset" at an annual rate of not less than <b>15 percent</b> (which allows for the faster recovery of these expenses).	SK, Article 306
<b>Value Added Tax (VAT)</b>	Technological equipment and materials imported under the framework of FDI may be exempt from VAT.	Tax Code, Article 246
<b>Customs duties</b>	Special equipment and laboratory instruments required for GKI that are not manufactured in Uzbekistan are exempt from customs duties.	Decree No. PF-6319

<sup>4</sup> Author's work based on research results.



## International Congress on Economics, Management and Business Studies

Hosted Online from New York, USA

Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

<b>Commercial finders' bonus</b>	This bonus amount, payable upon discovery of the ore, will be deducted as an expense when determining taxable profit in the future.	Article 452 of the Tax Code
<b>Land Tax and Property Tax</b>	Preferential rates may be applied to land plots and their facilities allocated at the E&D stage (before production begins).	Articles 415, 429 of the Tax Code Land Tax and Property Tax Preferential rates may be applied to land plots and facilities allocated at the E&P stage (before production begins). The IFRS 6 standard, "Exploration and Evaluation of Mineral Resources," is specifically deve

The IFRS 6 standard, "Exploration for and Evaluation of Mineral Resources", is specifically designed for geological exploration companies, and its main purpose is to establish the procedure for recognizing exploration expenses in the financial statements. A unique feature of the standard is that it allows companies to either



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Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

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continue with their existing accounting policies or develop new, modified policies tailored to the industry's characteristics. however, it imposes strict requirements for the classification of expenses and the impairment testing of assets.

In international practice, R&D expenses are classified according to two main criteria: by nature (tangible/intangible) and by function (research phases). Types of qualifying exploration assets: In accordance with IFRS 6, an entity may classify the following costs as "exploration and evaluation assets": costs of acquiring exploration rights, mining rights, and licenses, costs of topographic and geological surveys, mapping, aerial surveying, and surface exploration, control drilling, all direct costs associated with drilling exploration wells, sampling and laboratory analyses, Kern sampling and analysis of their physicochemical composition, pre-feasibility study (PFS), costs for assessing the technical feasibility and commercial viability of mineral extraction.

In international practice, two approaches are used for recognizing costs as assets. Tangible assets, for example, drilling rigs, specialized transport equipment. These are accounted for as Tangible Fixed Assets in accordance with IFRS 16. Intangible assets, such as drilling rights, geological databases, and exploration results. These are governed by the principles of IFRS 38 "Intangible Assets", but within the scope of IFRS 6.

Under IFRS 6, capitalization of costs (accumulation in the asset) is discontinued in the following cases, and they are transferred to another category. When commercial success is proven, if the economic viability of the deposit is confirmed, the asset is transferred from an "Exploration Asset" to a "Production/Mining Asset".

In the case of impairment, if exploration is unsuccessful or the license expires, the asset's value is immediately written off to the income statement (as an expense).



## **International Congress on Economics, Management and Business Studies**

Hosted Online from New York, USA

Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

---

Under IFRS 6, a key element of international practice in grouping costs is the obligation for environmental remediation. As soon as the enterprise begins exploration activities, it estimates the future costs of land reclamation and adds them to the asset's initial value (Debit: Assets, Credit: Reserve). This is an important classification element that is not yet fully developed in the national accounting system. The main difference of IFRS 6 from the national system is that it prefers to classify the costs not simply as “production cost”, but as an investment (asset) that will generate future income. This serves to increase the company's investment attractiveness.

International practice for accounting for costs in the geological exploration and evaluation of mineral resources is primarily governed by IFRS 6. This standard is specifically designed for the mining and extractive industries, providing flexibility in the recognition of exploration expenses. The main principles and scope of IFRS 6: the standard applies only to costs incurred in the exploration and evaluation phase of mineral resources. Capitalization of costs (accruing them as an asset) begins only after obtaining the legal permit (license) to conduct geological exploration activities in a specific area. Pre-licensing expenditures and post-provement (production) costs are not covered by this standard. There are two main methods for accounting for costs, and two main approaches to capitalizing E&C costs in international practice.



## **International Congress on Economics, Management and Business Studies**

Hosted Online from New York, USA

Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

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The Successful Efforts method capitalizes only those costs that lead to a commercially viable discovery (treated as an asset). Unsuccessful (dry) wells and exploration expenses are written off as a loss in the period. This method is used by most major international companies. The “Successful Efforts” method (SE) is considered the most transparent and conservative method for accounting for exploration expenses in international practice (especially under IFRS 6 and US GAAP standards). For your paper, the logical chain and economic advantages of this method can be presented as follows:

The main principle of this method is that the recognition of costs as an asset or an expense is directly dependent on the outcome of the geological exploration. If the exploration results in the discovery of commercially significant (commercial) reserves, all drilling and appraisal costs are capitalized (accumulated as an asset on the balance sheet).

If the exploration is unsuccessful (for example, a “dry hole”), all amounts spent are expensed in the same period in the income statement.



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**Table 4 Classification of expenses (by the SE method)<sup>5</sup>**

Type of Expense	Accounting Treatment
<b>Purchase of a license (right)</b>	Capitalized (held as an asset).
<b>Geophysics and Geology (G&amp;G)</b>	Usually expensed immediately.
<b>Successful drilling</b>	<b>Capitalized</b> (will be depreciated in the future).
<b>Unproductive (dry) drilling</b>	<b>Expensed</b> (not recognized as an asset).

The economic advantages of this method are that only assets with real value (those that will generate future income) remain on the company's balance sheet. Major companies (e.g., ExxonMobil, Shell, Chevron) use this method because it prevents financial statements from being “puffed up”. Its drawback is that if a major exploration project ends in failure, the company may incur a large loss in that year. (which leads to a sharp drop in profits). For small and new (“junior”) companies, this method can be problematic because their balance sheets show few assets.

For Uzbekistan's major mining companies (NKMC, OKMC), a model was proposed to prevent asset impairment by switching to this method. In this approach, the Full Cost method consolidates all exploration expenditures in a specific area (e.g., a country or a basin), regardless of their outcome, as an asset, which is subsequently recovered from the resources extracted.

<sup>5</sup> Author's work based on research results.



## International Congress on Economics, Management and Business Studies

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Date: 23<sup>rd</sup> April, 2026

Website: <https://econferencia.com>

The Full Cost (FC) method is the second most common model for capitalizing exploration costs in geological exploration (G&E), where the main emphasis is on the fact that “exploration is a holistic process”. In this method, all expenditures made during geological exploration (even unsuccessful, “dry” wells) are accumulated on the balance sheet as an asset. Unsuccessful exploration efforts are considered a “necessary expense” required to find a successful deposit.

Expenses are grouped not by individual well, but by a larger area (for example, an entire oil and gas basin or a country).

**Table 9 Expenditure hierarchy under the Full Cost (FC) method<sup>6</sup>**

Cost Type	Accounting treatment	Economic Result
<b>License acquisition</b>	Capitalized	The asset value increases
<b>Geophysical surveys</b>	Is capitalized	The asset value increases
<b>Successful drilling</b>	Capitalized	Increase in asset value
<b>Unsuccessful (dry) drilling</b>	<b>Capitalized</b>	The asset value increases (no loss is recorded)

The advantages of this method are that unsuccessful projects do not immediately impact the income statement (P&L), which prevents fluctuations in the company’s annual financial performance. Advantage for junior companies -

<sup>6</sup> Author's work based on research results.



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newly established companies can show larger assets and find it easier to attract investment.

Disadvantages: Expenses for assets that provide no economic benefit (dry wells) may remain on the balance sheet as assets.

Low transparency - It becomes difficult for an investor to know how effective the company's exploration work is (how many wells have been abandoned).

This table is prepared in accordance with IFRS 6 requirements and highlights the main differences in the accounting for exploration expenses.

**Table 5 Comparative Analysis of Exploration Expense Accounting Methods**

Comparative Criteria	Successful Efforts (SE)	Full Cost (FC)
<b>Key Concept</b>	There must be a direct link between the cost and the asset.	Exploration is a holistic process; failure is also part of success.
<b>Unsuccessful (dry) wells</b>	Immediately <b>expensed (written off)</b> .	<b>Capitalized</b> (accumulated as an asset).
<b>Geophysics and Geology (G&amp;G) expenses</b>	Recognized as current period expenses.	Added to the asset's cost.
<b>Balance sheet asset value</b>	Lower, but realistic (only mine values are reflected).	Higher (inflated by all exploration expenses).
<b>Financial result (Profit)</b>	Frequently changes based on exploration results (volatile).	Stable and evenly distributed (few fluctuations).



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<b>Impairment test</b>	Conducted for each individual mine or facility.	Conducted at the level of a large area (basin or country).
<b>Who is it suitable for?</b>	For large, financially stable, and international (IPO) companies.	For small and new (“Junior”) exploration companies.
<b>Main disadvantage</b>	A sharp drop in profits in the year of failure.	The presence of “dead” expenses in the asset structure that do not generate economic profit.

### Conclusion

At a time when Uzbekistan's mining industry is undergoing transformation and entering international capital markets (NCMC, OKMC), it is appropriate to apply the Successful Efforts (SE) method.

1. It clearly shows investors the company's real assets and the effectiveness of its exploration work.
2. Maximally compliant with IFRS and US GAAP standards.
3. Increases the transparency of the company’s financial statements and facilitates passing an international audit.

According to IFRS 6, assets are classified into two categories based on their nature.

Tangible assets (Tangible), for example, drilling rigs, specialized transport equipment.



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Intangible assets (Intangible) for example, drilling rights (license), topographic and geological survey results.

Impairment test: Capitalized assets are tested for impairment in accordance with the requirements of IAS 36. If there is evidence that exploration has been unsuccessful or that exploration of the area will be discontinued, the asset is written down.

IAS 6 provides flexibility for companies in the geological sector, but at the same time establishes clear rules for assessing when expenses become assets and when they have lost their value. This standard plays a crucial role in accurately reflecting the effectiveness of investments in financial statements for large enterprises such as Uzbekgeology Exploration JSC.

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