

ECONOMIC SECURITY OF ENTERPRISES IN THE CONTEXT OF ENVIRONMENTAL ACCOUNTING

Nutiddinov Turabek

Senior Inspector, Audit Directorate, Department for Combating Economic Crimes under
the Prosecutor General's Office of the Republic of Uzbekistan, Justice Adviser

Introduction

Enterprise economic security increasingly depends on the ability to anticipate and control environment-related financial risks. Environmental accounting supports this goal by identifying, measuring, and reporting environmental costs, liabilities, resource consumption, and exposure to regulatory and market changes. In a context where more than 100 billion tons of raw materials enter the global economy each year and global waste is projected to reach 3.4 billion tons by 2050, inefficient resource use directly threatens cost stability and competitiveness. At the same time, environmental risks can trigger large external costs and internal losses: the World Bank estimates the global health damages from air pollution at \$8.1 trillion (6.1% of global GDP). These figures demonstrate that environmental factors are not peripheral-they are economically material.

For enterprises, economic security means protecting profitability, liquidity, and business continuity under environmental constraints (carbon pricing, water stress, compliance penalties, and reputational risks). This thesis outlines how environmental accounting strengthens economic security through practical measurement, risk-based controls, and decision-useful reporting.

Main part

Foreign experience shows that environmental accounting contributes to economic security through three applied channels: quantified exposure, cost-and-liability management, and finance and market access.

First, firms use environmental accounting to quantify material risk exposures. Water risk is a leading example: CDP reports that, based on 2023 disclosures, companies identified a combined \$531.1 billion potential financial impact from water risks (from 922 firms that quantified impacts and mitigation costs). CDP also finds at least \$77 billion at risk in supply chains due to water-related issues, with almost \$7 billion at immediate risk-evidence that environmental risks can rapidly translate into earnings volatility, delays, and contractual failures. In practical accounting terms, these quantified exposures support scenario planning, contingency budgeting, and prioritization of mitigation capex.

Second, environmental accounting strengthens cost control and liability management by making hidden environmental costs visible and traceable. Firms that classify and allocate environmental costs (energy, water, waste, emissions fees, remediation) to products and processes can identify loss-making “pollution-intensive” activities and redesign operations. This is particularly relevant under carbon pricing. Under the EU ETS, the average 2024 auction allowance price was about €64.74 per tCO₂e (secondary market average about €65.23), which provides a concrete benchmark for carbon-cost sensitivity analysis in budgeting and investment appraisal. Enterprises that integrate such benchmarks into management accounting can stress-test margins, pricing, and procurement decisions against plausible carbon-cost trajectories.

Third, environmental accounting supports economic security through governance, assurance readiness, and financing. Investors and lenders increasingly rely on structured sustainability information, and weak data governance elevates the risk of misstatement, greenwashing allegations, and higher financing costs. Practical foreign guidance emphasizes that sustainability information should be produced with strong internal controls and governance comparable to financial reporting. In operational terms, enterprises improve security when they implement: (a) environmental KPI dashboards linked to financial KPIs, (b) documented controls over sustainability data, (c) provisions and contingent liabilities for remediation and penalties where relevant, and (d) audit trails for key environmental metrics used in reporting and financing covenants.

Conclusion

Environmental accounting is a practical economic security instrument because it converts environmental pressures into measurable financial risks and управляемые (manageable) cost drivers. Evidence such as \$531 billion in disclosed water-risk exposure and €65/tCO₂e carbon price benchmarks shows that environmental factors can materially affect enterprise cash flows, margins, and continuity. Enterprises that embed environmental accounting into budgeting, product costing, risk provisioning, and internal control systems are better positioned to prevent unexpected losses, stabilize profitability, and maintain access to finance. Ultimately, economic security is strengthened when environmental information is treated as decision-grade management data rather than a separate “non-financial” narrative.

REFERENCES

1. World Bank. (2025). Circular Economy and Pollution Management (materials input >100 billion tons; waste projected 3.4 billion tons by 2050).
2. World Bank. (2022). The Global Health Cost of PM2.5 Air Pollution (health damages \$8.1 trillion; 6.1% of global GDP).
3. CDP. (2023). Financial Sector Water Knowledge Hub / Water Security disclosure insights (potential financial impact of water risk \$531.1B).
4. CDP. (2024). Water now a major risk for world's supply chains (at least \$77B under threat; ~\$7B immediate risk).
5. ICAP. (2024). EU Emissions Trading System (EU ETS) facts and prices (average 2024 auction and secondary market prices).
6. IFAC. (2023–2024). Guidance on strengthening governance and internal control for sustainability reporting and assurance readiness.