ORIGINAL PAPER

DOI: 10.26794/2587-5671-2023-27-3-209-220 UDC 336(045)

JEL L10, O30



Methodology for Assessing Information Disclosure on Stakeholder Risks in Non-Financial Reporting of Oil and Gas Companies

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ABSTRACT

The subject of the study was the public non-financial reporting of oil and gas companies in Vietnam and Russia. The research methodology is based on the analysis of theories, methods for assessing and rating the best practices of public non-financial reporting from the standpoint of disclosing stakeholder risks when making economic, including investment decisions. The analysis revealed the limitations of the studied methods within the framework of openness and the absence of an important component of quantifying the satisfaction of stakeholders with the disclosure of information that is of high importance to them from in terms of key risks associated with the company's activities. In this regard, the purpose of the study was to develop a methodology and analytical tools to assess the degree of disclosure of information about stakeholder risks in the non-financial reporting of oil and gas sector companies (the degree of satisfaction of the most significant stakeholders). The methodology is based on the identification and correlation of companies' key risks with the interests of the most significant stakeholders, which is the theoretical significance of the study, and also includes a compliance approach, mathematical and statistical assessment of the degree of satisfaction of stakeholders' interests. The empirical base of the study was the 20 leading companies in Russia according to the RUIE 2022 ranking and the 23 largest companies in Vietnam according to the VN 500 2022 ranking in terms of revenue. The practical significance of the methodology lies in the fact that its results make it possible to increase the effectiveness of the company's communications with the most significant stakeholders in order to achieve the goals set in the field of sustainable development.

Keywords: oil and gas sector; ESG information; sustainable development policy; key risks; degree of stakeholders' satisfaction

For citation: Doan T.L., Kazakova N.A. Methodology for assessing information disclosure on stakeholder risks in nonfinancial reporting of oil and gas companies. Finance: Theory and Practice. 2023;27(3):209-220. DOI: 10.26794/2587-5671-2023-27-3-209-220

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FINANCE: THEORY AND PRACTICE ♦ Vol. 27, No. 3'2023 ♦ FINANCETP.FA.RU

INTRODUCTION

The energy and oil and gas sectors are among the system-forming sectors of growing world economies, and their operation is inextricably related to high political risks and public policy. According to the Energy Research Institute of the Russian Academy of Sciences' scenario forecast of the consequences of the observed technological transition of the world energy from the use of organic fuel to non-carbon energy resources, "the main direction of world energy development will be determined by the influence of changes in energy policy and new technologies",1 which will be the main dominant of energy development worldwide, and its most import. This is indicated in the papers of A. G. Aganbegyan [1] and B. N. Porfiriev [2]. At the same time, the attraction of investments is significantly tightened by the risks associated with the implementation of the strategy of environmental, social and governance responsibility of the business (Environmental, Social and Governance, further - ESG).² Global trends and the global community's attitude toward the importance of corporate reporting demonstrate that the compilation and presentation of information about ESGfactors of sustainable development is an unavoidable process, as confirmed by KPMG research on the state of such reporting by the world's largest companies in all sectors of the economy from 2008 to 2022. A 2022 analysis of non-financial reporting by the world's biggest revenue companies in Group N 100 (5 800 companies) and Group G 250 (250 companies) shows the evolving dynamics of non-financial reporting companies,³ furthermore, 18% of

the N Group 100 and 37% of the G 250 Group firms provided non-financial disclosures based on Task Force on Climate-related Financial Disclosures (TCFD). More than 90% of interested users of non-financial reporting responded positively to the relevance and usefulness of companies' financial impact disclosure on climate change.⁴

The research we conducted was based on an examination of the non-financial reporting practices of companies in Russia's oil and gas sector (the sample included 21 companies, including leaders in Russian Union of Industrialists and Entrepreneurs (further — RUIE) ranking (2022) and Vietnam (sample of 23 largest companies by VN 500 revenue in 2022). As of 14 October 2022, according to the National Register of Corporate Nonfinancial Reports, 225 companies and their 1314 reports submitted Russian practice. Comparative structure of different types of non-financial reports of oil and gas companies among the companies of other sectors of the economy presented sustainable development reports (SD), social reports (S), environmental reports (*E*), integrated reports (I) (Fig. 1).

The results of ESG-indices of RUIE in 2021 revealed the leading oil and gas companies, which were included in two groups A and B+ on the index "Responsibility and Openness" (Gazprom, Lukoil, Rosneft, Tatneft — Group A; NOVATEK, Sakhalin Energy, Transneft — Group B). Average industry index increased from 0.63 to 0.75 in 2020.⁵ Analysis of the best Vietnamese practices based on the rating of VN 500 in 2022 allowed to form two groups of companies by types of activity: the first group — oil and gas exploration

¹ World Energy Development Forecast 2019. Energy Center of the Moscow School of Management SKOLKOVO. URL: https://energy.skolkovo.ru/downloads/documents/SEneC/Research/SKOLKOVO_EneC_Forecast_2019_Rus.pdf (accessed on 25.08.2022).

The New World Order of ESG. URL: https://gaap.ru/articles/Novyy_mirovoy_standart_ESG_raskrytiy/(accessed on 20.05.2022).
 KPMG.Big shifts, small steps. Survey of Sustainability Reporting 2022. URL: https://assets.kpmg/content/dam/kpmg/xx/pdf/2022/10/ssr-small-steps-big-shifts.pdf html (accessed on 14.02.2022).

⁴ Task Force on Climate-related Financial Disclosures 2021 Status Report. URL: https://www.fsb.org/wp-content/uploads/P141021-1.pdf (accessed on 21.04.2022).

⁵ Indices of the RUIE in the field of sustainable development — 2021. ESG-index of the RUIE: "Responsibility and openness" and "Vector of sustainable development". URL: https://media. rspp.ru/document/1/e/0/ e03632d895731fcd79e2b7d02aa2 8c37.pdf (accessed on 15.06.2022).

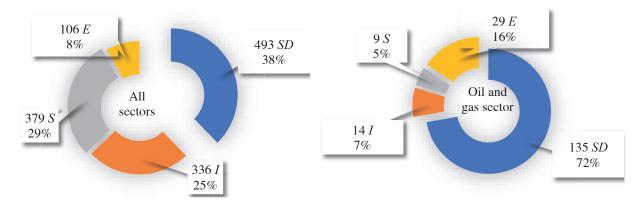


Fig. 1. Structure of Non-Financial Reports in Russia, %

and production, 6 the second — sales of petroleum products and related products. 7 We researched further at the actual content and presentation of information in non-financial company reporting from 2007 to 2021. The 162 published non-financial reports analysed include: annual report (150 A), corporate social responsibility reports (6 CSR) and sustainable development reports (6 SD) (Fig. 2). At the same time 54% of the annual reports compiled contained integrated ESGinformation, the remaining annual reports (46%) — only partial information on certain aspects: corporate governance (G - factor), ecology (E - factor) or social responsibility (S factor)

In the first phase of the study, we reviewed widely used methodologies for assessing ESG-disclosure practices information and rating of company performance in the field of sustainable development and generalized the identified limitations of the existing methods to the framework of openness and the absence of an important component of the quantitative assessment of stakeholder satisfaction with information, highly significant for them from the point of view of disclosure of key risks

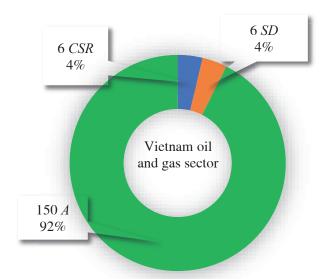


Fig. 2. Structure of Non-Financial Reports of Oil and Gas Companies in Vietnam, %

Source: Compiled by the authors.

related to the company's activities, which served as the basis for the development of the author's methodology.

The author's methodology consists of a series of analytical procedures that ensure the identification and reconciliation of key risks of companies with the interests of the most significant stakeholders, mathematical and statistical assessment of the level of satisfaction of stakeholders' interests, and visualization of the obtained results, which contributes to a better understanding of the company's business model in relationships with stakeholders, and also serves as a guideline. The practical significance of the author's methodology resides in its emphasis

⁶ List of Group 1 oil and gas companies. URL: https://vnr500.com.vn/Nganh-nghe/Tham-do-khai-thac-dau-mo-va-hoat-dong-ho-tro-Post/21.html (accessed on 20.08.2022).

⁷ List of Group 2 oil and gas companies. URL: https://vnr500.com.vn/Nganh-nghe/Kinh-doanh-xang-dau-va-cac-san-pham-lien-quan-Post/22.html (accessed on 20.08.2022).

on achieving sustainable development goals by improving the efficiency of communication management with the most important stakeholders.

REVIEW OF SCIENTIFIC-PRACTICAL APPROACHES TO ESG-INFORMATION DISCLOSURE AND STAKEHOLDER RISKS

The examination of theoretical and empirical research on the disclosure of non-financial indicators in corporate reporting indicates the significant scientific interest in the study of the influence of ESG-information on the efficiency of enterprises in the real sector. almost the last five years, almost 3000 publications on ESG have been published in the English-language scientific journals of the Scopus scientific citation base [3]. Many Russian scientists — S. D. Bodrunov [4], S. N. Bobylev [5], V.V. Yankovskaya [6], A. A. Makarov [7] — regard investment attraction as one of the primary drivers of the Russian economy's long-term development, stating that "the investment attractiveness of business will be influenced primarily by detailed disclosure of information on corporate environmental risks" in companies' public non-financial reports. Questions of improving the quality of public nonfinancial reporting of companies in various sectors of the economy, assessing the impact of ESG-information on the reputation and market value of the business, balanced disclosure of interests of different groups of stakeholders are devoted researches of M. A. Fedotova, O. V. Loseva, V. V. Bogatyreva [7], E. Yu. Makeeva, I. V. Ivashkovskaya, L. S. Ruzhanskaya, K. A. Popov [9], Tensie Whelan, Elise Douglas, 8 O. V. Efimova, M. A. Volkov, D. A. Koroleva [10]. Scientists Y. Wang and Y. Chen [11] consider that the company's participation in ESG-ratings is a positive signal to investors and raises the price of shares. At the same time, J. Fijałkowska and

D. Hadro explain the mechanism of impact of corporate governance on the efficiency of the company by balancing the interests of investors, shareholders and other stakeholders [12].

The impact of "green" investments on business efficiency and relationships with stakeholders reveals the results of empirical research of scientists from Vietnam, Malaysia, Oman [13], Portuguese scientists J. Costa and J.P. Fonseca [14]. At the same time, the materials of the significant energy company EDF, that are no longer informative, since they focus exclusively on the Kyoto Protocol criteria and the assessment of greenhouse gas emissions.9 The existing methods, according to the authors and a number of scientists, are largely based on a compliance-based approach: assessment of the level of compliance of management actions with accepted standards, as well as the degree of openness (transparency) of business, which is, of course, important.¹⁰ The risk impact on investment attractiveness and business value for any significant stakeholder groups, which is critical for industry growth, does not appear from the methodology [15].

According to Harvard School researchers under the guidance of Professor D. Freiberg [16], economic sanctions, reputational costs and damage compensation from accidents account for a significant share of business costs, while information openness and business transparency increase investor confidence and investment attractiveness. Compliance with the objectives of sustainable development is now a major focus of Russian State policy.¹¹

⁸ Whelan T., Douglas E. The price of social responsibility. URL: https://big-i.ru/biznes-i-obshchestvo/etika-i-reputatsiya/854831 (accessed on 18.04.2022).

⁹ EDF group's Environmental, Social and Governance Indicators. 2021. URL: https://www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company/reports-and-indicators/non-financial-kpis/esg-indicators (accessed on 05.03.2022).

¹⁰ Green Bond Guidelines for the Real Estate Sector. GRESB Real Estate Debt. October 2016. URL: https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Green-Bond-Guidelines-for-the-Real-Estate-Sector.pdf (accessed on 20.11.2020).

¹¹ Recommendations on the disclosure by public joint stock companies of non-financial information related to the activities of such companies. Information letter of the Bank of Russia No. IN-06–28/49 from 12.08.2021. URL: http://www.

Table 1
Qualitative Differences in Rating Methods for Russian Companies in Terms of Taking Into Account
Significant Criteria and Risks of Economic Decision Making in the Oil and Gas Industry

Comparison criteria	ACRA 2021	WWF Russia 2019	RSPP 2018	RAEX Europe 2019
Scope of application of the methodology: the availability of accounting for the industry, including oil and gas	-	+	-	-
Use of public reporting	+	+	+	-
Correspondence of disclosed indicators to the interests of stakeholders	-	-	-	-
Evaluation of disclosure level	+	+	+	+
Information on key stakeholders	-	-	-	-
Identification of stakeholder risks	-	-	-	-
Advantages	A universal approach covering different sectors of the economy	Evaluation of the degree of openness of oil and gas companies	Set of SD/CSR disclosure indices and trends	Existence of an ESG- rating and separate E, S, G ratings, risk management assessment and potential opportunities
Limitations	Lack of specific criteria for assessing the level of transparency of information of companies in one industry	Lack of assessment of the degree of disclosure of interests of different stakeholders	It does not assess the information needs of stakeholders, does not include the risk assessment and level of disclosure	Lack of accounting of interrelationships, assessment of key risks, most significant stakeholders, use of subjective information

"Interfax" survey results confirm high demand for ESG-information. ¹² Information is becoming increasingly important for all stakeholders, not

consultant.ru/document/cons_doc_LAW_390868/36110d9bf1 3d5bacbfdaa864b854ac53070881df/ (accessed on 27.12.2021).

¹² ESG-disclosure: theory and practice of implementing new Central Bank' recommendations. Interfax. 2021. URL: https://group.interfax.ru/interfax/about/smi/esg-raskrytie-teoriya-i-praktika-vypolneniya-novykh-rekomendatsiy-tsb/ (accessed on 20.01.2022).

just shareholders, investors, governments, and regulators. Furthermore, more than half of the ESG-disclosures in public reports do not meet the information quality criteria for different stakeholders to make informed decisions, but are presented at the level of declarations or abstract statements, making it difficult for stakeholders to retrieve relevant and useful information [17].

 ${\it Table~2} \\ {\it A~Comparative~Analysis~of~Corporate~Reporting~in~Russian~and~Vietnamese~Oil~and~Gas~Companies} \\$

Comparison criterion	Russia	Vietnam	
Type of Corporate Reporting	21 non-financial corporate reports: including 14 reports in SD; 2 annual reports, 3 environmental reports	8 non-financial corporate reports, including 7 annual reports, 1 report in SD	
Standards and/or methods used for the preparation of corporate reporting	14 companies (70%) used the GRI Guidelines; 3 companies (15%) did not specify the methods/ standards used; 3 companies (15%) used other methods/standards	3 companies used the GRI Guidelines; 5 companies did not disclose information on methodologies and standards used	
Presence and form of certification of corporate reporting information	6 companies — no certification; 14 companies — existence of the certification, including: 4 companies — public assurance; 2 companies — independent and public assurance; 2 companies — review of external advisory commission on sustainable development; 5 companies — independent assurance; 1 company — limited independent assurance	Non-financial corporate reports (annual reports and SD report) were not supported by certified procedures	

We performed a comparison of four ESG-disclosure ranking methods (ACRA, WWF Russia, RUIE, RAEX Europe) (*Table 1*).

Thus, the practice of disclosure in public non-financial reports is constantly developing, and the generalization and comparative analysis of the reviewed methodologies show their demand. At the same time, their detailed analysis shows that the tools used to assess the level of satisfaction of stakeholders' interests with information of public non-financial reports from the perspective of the presence of risks for making economic decisions are insufficiently relevant and representative, which does not provide guidance to companies on how to manage risk disclosure and better achieve sustainable development.

DESCRIPTION AND TESTING OF A METHODOLOGY FOR ASSESSING STAKEHOLDER RISK DISCLOSURE IN NON-FINANCIAL REPORTING

The second stage of the study is devoted to the development of a methodology for assessing the disclosure of information on stakeholder risks in non-financial reporting or the level of satisfaction of the most significant stakeholders using the empirical base of SD companies in the oil and gas sector of Russia, including the leading ranking companies of RUIE 2022 and the largest companies of Vietnam (CRV) on the rating VN 500 2022.

The review identified issues with the use of various methods for reporting and guidelines, as well as insufficient disclosures in terms of quantity and quality of reporting. The perimeter of the study and its results are presented in *Table 2*.

Algorithm of stakeholder risk disclosure in non-financial reporting of oil and gas sector companies to assess the level of satisfaction of the most significant stakeholders includes the following stages, implemented on the basis of compliance approach and mathematical and statistical analysis through analytical procedures that:

- identification of key risks of sustainable development of oil and gas sector companies;
- determination of the most significant stakeholder groups;
- consolidation of key risk information in public non-financial reporting (section "Risks and opportunities", GRI 102–15) and linking them to the most important stakeholders;

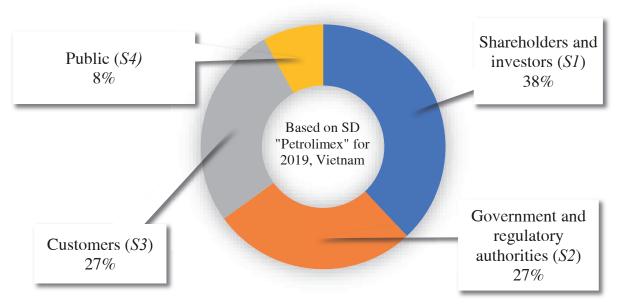


Fig. 3. General Level of Interest in Risk Information Among Significant Stakeholder Groups, % Source: Compiled by the authors.

- calculation of the risk disclosure rate in accounting indicators according to stakeholder interests by forming a stakeholder risk matrix (in absolute and relative terms);
- visualization of the results in a comprehensible format (chart, graph, table) and formation of conclusions. As it contributes to a better understanding of the company's business model in relation to stakeholders, and also serves as a navigator to ensure the expected level of risk disclosure for significant stakeholders, the visualization process allows the company to increase the efficiency of communication with the most important stakeholders in order to achieve the set goals in the field of sustainable development.

The compliance approach was to verify that the company's disclosure in non-financial reporting met the formal requirements for its content, without taking into account the quantitative values of the disclosed indicators and their inclusion in certain areas (blocks) of the report. The approbation of the methodology was carried out on the Vietnamese national oil Group "Petrolimex" (one of 8 public oil and gas companies with the best practice of corporate reporting).

Based on the study of business environment of Vietnam oil and gas sector companies,

the most significant groups of stakeholders and their influence on the company were identified. Shareholders and investors (*S* 1) are most interested in the company's operational operations and prospects for sustainable business development. Risks associated with climate change and the danger of inaccuracy of information in reporting are also important to them.

Government and regulatory authorities (S 2) have a significant impact on current activity by licensing, changing policies or imposing various restrictions. Customers (S3) — one of the key stakeholders of oil and gas companies. Their interest in information in corporate reporting is closely linked to risks that may affect their relationship with the company as a regular customer and/or partners. The public, including local residents and public organizations (S 4), represents interests to the jobs created, environmental and industrial safety, preservation of the natural environment, public health, and the company's contribution to socio-economic potential of the business region.¹³

¹³ Climate risks and opportunities: what challenges oil and gas industry companies must solve. Deloitte. 2020. URL: https://en.unecon.ru/sites/default/files/en/maria_spiridonova_polina.pdf (accessed on 02.12.2021).

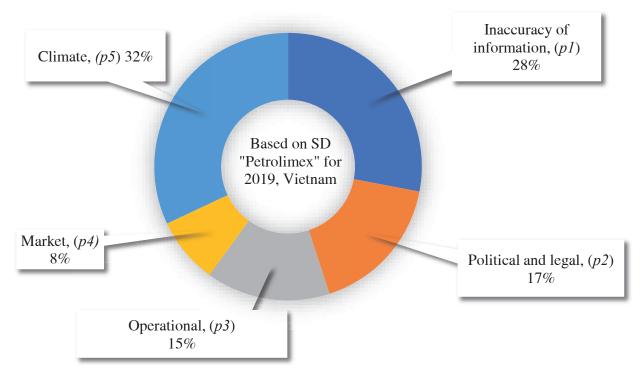


Fig. 4. The Structure of Disclosed Stakeholder Risks in Public Non-Financial Reporting, % Source: Compiled by the authors.

The number of indications provided in the SD indicating the interests of each category was used to estimate stakeholders' interests. Thus, the interests of shareholders and investors were represented in 38% of the total SD information; government and regulators — 27%, customers — 27%, public — 8% (Fig. 3).

The author's approach to the classification of stakeholder risks was based on the study of corporate reporting practices of oil and gas companies in Russia and SRV, international standards [nonfinancial reporting, financial statements (IFRS), auditing (ISA)], related to risks, Russian and international risk management standards. Taking into account the specifics of the oil and gas business, we have identified 5 groups of risks that are important both for the business itself and for external groups of stakeholders: risks of inaccuracy information (p1); political and legal risks (p2); operational risks (p3) including emergency risks; market risks (p4); climate risks (p5). Independent assurance procedures minimize these

risks by confirming them (ISA 315).¹⁴ To ensure the quality of economic decisions and meet the need for reliable information of different stakeholders, they should be considered as significant risks.

Our suggested method evaluates the extent of risk disclosure in SD reporting from the standpoint of important stakeholders' interests (*Fig. 4*).

The quantitative assessment of the risk disclosure revealed that the company is more likely to disclose the risks associated with climate change (32% of the information); 28% are risks of inaccuracy information; 17% — political and legal risks; 15% — operational; information disclosing market risks is 8%. However, it should be noted that there is no criterion threshold for the structure of disclosed risks in the public non-financial reporting. The degree of disclosure of information (satisfaction of stakeholders) is determined by the company depending on

¹⁴ ISA 315 (revised) "Identification and assessment of risks of significant distortion", implemented in the territory of the Russian Federation by order of the Ministry of Finance of the Russian Federation No. 163 from 27.10.2021.

 ${\it Table~3}$ Matrix for Assessing the Disclosure of Key Stakeholder Risks in Public Non-Financial Reporting

Ключевые риски / Key risks, <i>pi</i>	Share of indicator	Degree of disclosure of a particular risk in ASD for all			
	<i>S</i> 1	S2	S3	S4	stakeholders, %
р1	p1S1	p1S2	p153	p1S4	$\sum_{j=1}^4 p_1 S_j$
p2	p2S1	p2S2	p2S3	p2S4	$\sum_{j=1}^4 p_2 S_j$
рЗ	p3S1	p3S2	p3S3	p3S4	$\sum_{j=1}^{4} p_3 S_j$
р4	p4S1	p4S2	p4S3	p4S 44	$\sum_{j=1}^4 p_4 S_j$
<i>p</i> 5	p5S1	p5S2	p5 <i>S</i> 3	p5S4	$\sum_{j=1}^4 p_5 S_j$
Level of disclosure of all identified risks per group of stakeholders, %	$\sum_{i=1}^{5} p_i S_1$	$\sum_{i=1}^{5} p_i S_2$	$\sum_{i=1}^{5} p_i S_3$	$\sum_{i=1}^{5} p_i S_4$	100

existing priorities on their significance for business activities and their role in ensuring sustainable development.

ALGORITHM FOR QUANTIFYING STAKEHOLDER SATISFACTION BASED ON NON-FINANCIAL REPORTING RISKS

Table 3 introduces a matrix to analyze the key risks disclosed according to the interests of the most significant stakeholder groups. For each type of risk p_i the level of disclosure of interests to it by each group of stakeholders S_i

is calculated. The rows represent the level of disclosure of a certain risk by the interest of each group of significant stakeholders (from S_1 to S_4), as well as the aggregate interest in this risk. The total sum of the shares of this risk in each row reflects the overall degree of disclosure of the stakeholders' risk in the non-financial report. Columns show the extent to which a particular risk is exposed for each stakeholder group (from p_1 to p_5). The total amount per column indicates the degree of disclosure of all identified risks for each

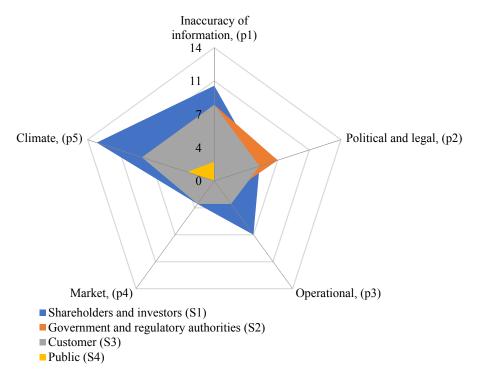


Fig. 5. The Degree of the Stakeholders Interests' Satisfaction Based on the Disclosed Key Risks in Non-Financial Reporting, %

stakeholder group, which corresponds to the level of satisfaction of significant stakeholders of the company with SD disclosure. The total sum for rows and columns is 100%.

The procedure of visualization of the results of the calculations is their presentation in the format of a diagram showing the structure of the disclosed information about the most significant risks and the degree of satisfaction of the interests of key stakeholders (Fig. 5). The results show the company's priorities in relations with key stakeholder groups. The greatest risk disclosure and, as a result, degree of satisfaction (38%) is in the interests of shareholders; among the most exposed risks are climate (13%) and risks of information inaccuracy (10%). The next most important are the interests of buyers, the degree of their satisfaction 27%, and the most disclosed risks - climate (their share is 8%), risks of information inaccuracy (8%) and political and legal risks (5%). Government and regulatory authorities are the third most important in risk disclosure: among the most disclosed risks are political and legal (7%), climate

(8%) and risks of information inaccuracy (8%). The lowest level of risk disclosure and, consequently, satisfaction (8%) falls on the public interest, which includes indicators of climate risks (3%), operational risks (3%) and information inaccuracy risks (2%).

It should be noted that the oil and gas industry is sufficiently volatile to political and regulatory changes, and that it is greatly impacted by the market environment, the influence of related industries and sectors of the economy, as well as international standards and organizations operating in different regions of the world. In this regard, for industry computers operating in rapidly changing conditions, a certain adaptation of meta-information is required. The developed methodology is distinguished in particular by its simplicity and ease of use, as well as sufficient ease of adjustment when changing the business parameters while taking into consideration its institutional specifics, the composition of key risks and the approach to their classification, and the identification of the most significant groups of stakeholders in terms of industry and sectoral specifics.

CONCLUSION

The study allowed the development of a methodical toolkit, which included a compliance-approach and a mathematical-statistical assessment of the degree of satisfaction of stakeholders' interests in information about risks associated with the company's activities, which was included in its public non-financial records.

Due to the various sources of information used for Russian and Vietnamese companies, standards and local requirements for the production of non-financial reporting and its independent assurance in different countries, and inadequate approved companies, our research has certain limitations.

Further research on the methodology's development will aim to broaden the scope of the studied oil and gas companies in the region of presence, taking into account their specifics and the macroeconomics of the region, as well as clarify stakeholder groups and their preferences in disclosing the most significant risks in reporting.

The results of the methodology demonstrate the need to change the practice of forming public non-financial accounts of companies in the oil and gas sector in order to ensure a balance between stakeholders' interests and sustainable development priorities.

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Conflicts of Interest Statement: The authors have no conflicts of interest to declare.

The article was submitted on 21.10.2022; revised on 10.11.2022 and accepted for publication on 06.12.2022.

The authors read and approved the final version of the manuscript.