



UNIVERSITY OF
NORDLAND

BODØ GRADUATE SCHOOL OF BUSINESS

MASTER THESIS

Master of Science in Sustainable Management

FE306E

*How do companies “walk” the Climate Change
Mitigation “talk”? Comparative study of oil and
gas companies in Russia*

by

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Spring 2014



Abstract

The environmental responsibility of business has become a crucial topic during past decades and today reporting of related activities is becoming prevalent. Business starts to acknowledge the benefits of being seen as environmentally responsible.

In turn, corporate responses to climate change have improved dramatically over the past two decades. Oil & gas companies are facing the increasing pressure from shareholders, government, nongovernmental organizations (NGOs) and other stakeholders to reduce their carbon dioxide (CO₂) emissions in order to mitigate climate change (CC). The companies face the growing importance of managing CO₂ emissions and the need to perform adequate CO₂ strategies.

In our study we made an attempt to dig into the relations exist inside the social and environmental reporting (SER), and if to be precise, we aimed to investigate the relationships arise between the strategy formulation and strategy implementation in terms of studying the corporate responses to climate change from the side of the oil & gas industry in Russia. The investigation of relations between strategy formulation and implementation became an important step in revealing how an oil & gas industry actually performs in mitigating climate change.

In order to assess how Russian oil & gas companies portray themselves and how they actually perform from the perspective of climate change mitigation policy the concepts of climate change governance and performance were utilized.

The concept of climate change governance was chosen in order to frame and give concrete expression to the idea of how companies formulate climate change (CC) strategy or how they portray themselves. *The Climate Change Governance Checklist* was utilized for evaluating the governance practices of the chosen companies, and hence gave an assessment of companies' portrayal and strategy formulation.

Climate change performance assessment was based on the quantitative analyses of actual greenhouse gas (GHG) emissions by each company, the mobilization of resources to accomplish the CC strategies and review of companies' media profiles. The multiply methods were employed with the view to broaden the content analysis, chiefly associated with reports studying and focus of which is traditionally considered narrow.

Each of the four chosen Russian oil & gas companies was evaluated on both its climate change governance and performance. The motive for looking at both governance and performance

comes from a desire to better comprehend and articulate differences between companies from both the perspective of their “talk” (a company’s strategy towards climate change mitigation, policies and programs to address the climate change) and their “walk” (management of GHG emissions).

The findings of the research represent the evaluation of both companies’ level of climate change governance and performance and the evaluation of the relationships exist between these two concepts. We tried to make some reasoning how these two concepts are related to each other.

Key Words:

Russian oil & gas industry, climate change governance, climate change performance, strategy formulation, strategy implementation.

Acknowledgments

This Master Thesis is an obligatory final assignment for two-years Master of Science in Sustainable Management program at Bodø Graduate School of Business. The thesis counts for 30 points.

We are grateful for the opportunity to take part in the Master program in the University of Nordland that among others allowed us to experience an exchange semester in Baltic State University and complete our Master Thesis in our home city of Tyumen. This journey was one of the most exciting and unforgettable experiences in our life. In spite of the tremendous work put in the preparation of the Master Thesis, we managed to overcome difficulties and strike a balance and compromises at all times and in all places.

We are also grateful to the professors of Bodø Graduate School of Business and to all who were involved in Sustainable Management program and shared their knowledge and experience with us, namely Sverre Grepperud, Odd Jarl Borch, Konstantin Timoshenko, Ove Jakobsen, Anatoli Bourmistrov, Frank Lindberg and Bjørn Willy Åmo, Hin Hoarau-Heemstra and Sergei Kosolapov.

Our most sincere thanks we owe to our research supervisor Anatoli Bourmistrov for his day-to-day support, encouragement and always excellent feedbacks. Without his support and active participation during all the process the Thesis might have never been completed.

We are also thankful to Daniel Woynillowicz whose work devoted to oil & gas companies' climate change strategies investigation inspired us to choose the topic and unite our efforts in exploration the strategy formulation and implementation of Russian oil & gas companies.

We are thankful to each other for day-to-day support and understanding. We are grateful for the opportunity to work in team and believe that our skills complemented each other and that we managed to join our efforts in completing this Master Thesis in a successful way.

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Survey of Abbreviations

APG – Associated Petroleum Gas

BP – British Petroleum

CC – Climate Change

CERES – Coalition for Environmentally Responsible Economies

CO₂ – Carbon dioxide

CSR – Corporate Social Responsibility

EMS – Environmental Management System

Gazprom – Gazprom Group, i.e. the heading company Open Joint Stock Company Gazprom with its 100 % subsidiary companies and organizations, Open Joint Stock Company Gazprom Neft and its subsidiaries, Limited Liability Company of Gazprom energoholding and its subsidiaries (Open Joint Stock Companies of Mosenergo, OGK-2, TGK-1 and Murmanskaya CHP) and other group of subsidiary incorporated oil & gas companies

GHG – Greenhouse Gas

HR – Human Resources

HSE – Health Safety Environment

IPCC – Intergovernmental Panel on Climate Change

ISO – International Organization for Standardization

KPI – Key Performance Indicators

Lukoil – the LUKOIL Group i.e. the heading company Open Joint Stock Company LUKOIL, the LUKOIL Group’s companies and subsidiaries.

MCSE – Moscow Central Stock Exchange

mln – million

NGOs – Nongovernmental Organizations

NO_x – Mono-nitrogen oxides NO and NO₂ (nitric oxide and nitrogen dioxide)

OHSAS – Occupational Health and Safety Management Systems

R&D – Research and Development

Rosneft – Open Joint-Stock Company Rosneft Oil Company and subsidiary companies

RUB – Russian Ruble

RUIE – Russian Union of Industrialists and Entrepreneurs

SEA – Social and Environmental Accounting

SEAR – Social Environmental Accountability Research

SER – Social Environmental Reporting

SIRAN – Sustainable Investment Research Analyst Network

SNG - Surgutneftegas – Open Joint-Stock Company Surgutneftegas and subsidiary companies

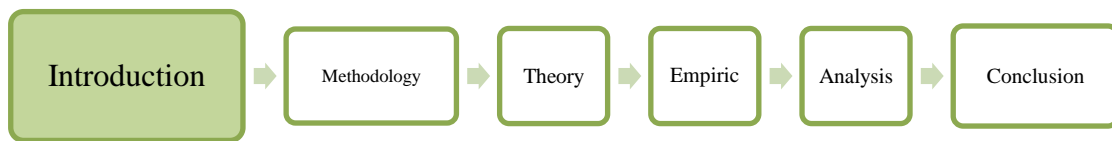
SO_x – Sulfur oxide

US – The United States of America

USD – United States Dollar

WWF – World Wildlife Fund

I. INTRODUCTION



1.1. *Relevance and Background of the research*

Before specifying the research topic it is necessary to reflect the background information about the topic studied and provide a reader with argumentation why the topic deserve attention from the side of business as well society at large. In wide sense we made an attempt to dig into the relations exist inside the social and environmental reporting (SER), and if to be precise, we aimed to investigate the relationship arise between the strategy formulation and strategy implementation in terms of studying the corporate responses to climate change (CC) issues from the side of the oil & gas industry in Russia.

The environmental responsibility of business has become a crucial topic during past decades and today reporting of related activities is becoming prevalent. Companies acknowledge the benefits of being seen as environmentally responsible and some of them are “*jumping on the bandwagon of reporting CSR and using different media to communicate their activities in the arena to their stakeholders*” (Sweeney and Coughlan, 2008: 113).

Research in the area which can be broadly referred to social environmental accountability research (SEAR) has obtained recognition during previous decades. However, today we also see a substantial growth in the research aimed to investigate the social and environmental accounting issues. Such attention is supported by the number of academic researchers who have already worked or just entering the area, and also by the attention from the side of governments, professional accounting bodies, industry bodies, and corporations. Undoubtedly, over the last decades, particularly since the mid-1990s, we could observe a substantial growth in the field of SEAR, and “*what has created this growth is, in itself, an interesting issue for investigation*” (Deegan, 2002: 283).

Corporate responses to climate change have improved dramatically over the past two decades. Until the early 1990s, business generally ignored the issue, while only some transportation and oil firms paid attention to the growing scientific attention to the topic.

Today business tends to stick to the opposite view that urges to acknowledge the scientific concerns and regards climate change as an opportunity rather than a burden (Margolick and Russell, 2004).

The modern business view on climate change is precisely expressed in the CERES¹ report:

“Companies at the vanguard no longer question how much it will cost to reduce greenhouse gas emissions, but how much money they can make doing it. Financial markets are starting to reward companies that are moving ahead on climate change, while those lagging behind are being assigned more risk” (Cogan, 2006:1).

Anthropogenic emissions of carbon dioxide (CO₂) and other gases that are proved to cause global warming at the current rate will provoke the significant changes in the global climate system (IPCC, 2007). The fact that the oil & gas industry livelihood is earned from oil and natural gas – the main sources of emissions of greenhouse gases (GHG) – makes the industry sensitive to the regulatory measures applied from the governmental and non-governmental sides. As a consequence, the industry and society face the dilemma of how to introduce and implement climate policies and the degree to which they are or will be effective in reducing emissions (Weinhofer and Hoffmann, 2010).

The oil & gas companies are facing the increasing pressure from shareholders, governments, NGOs and other stakeholders to reduce their CO₂ emissions in order to mitigate climate change. The companies face the growing importance of managing CO₂ emissions and the need to perform adequate CO₂ strategies.

The oil & gas industry appears to constitute a part of global business that operates in a global market. With the regard to the foregoing one can assume that, apparently, opportunities and challenges invoked by climate change would be the same for oil & gas companies, so that the climate strategy of each individual company also would be the same. However, the previous research on the topic revealed the striking differences in the climate strategies, both in formulation and implementation, what represents a puzzle (Sæverud and Skjærseth, 2007).

The multinational oil & gas arena presents clear examples of divergence between climate change strategy formulation and implementation. A good example is the strategic divergence among the world oil majors: ExxonMobil, which has not fully acknowledged the potential impact of GHG

¹ Coalition for Environmentally Responsible Economies

emissions and remains opposed to the Kyoto Protocol and Shell and British Petroleum (BP) that are “regarded as proactive oil companies, not only because they have acknowledged the challenge of climate change, but also because they support the Kyoto Protocol and have set targets for greenhouse gas emissions in their business operations” (Sæverud and Skjærseth, 2007: 42).

ExxonMobil aims to prevent the implementations of the United States of America (US) climate policy and “put the entire Kyoto Protocol out of action by lobbying against any binding targets and timetables for the US” (Sæverud and Skjærseth, 2007: 43). ExxonMobil was instrumental in US rejection of the Kyoto Protocol. Contrasting the policy of ExxonMobil, BP and Shell try to incorporate climate change issues and to benefit from new market opportunities for an exemplary climate policy, setting a trend in corporate greenhouse gases (GHG) reporting and verification.

“Whereas differences in the formulation of corporate climate strategies and their political implications are fairly well understood, less is known about differences in implementation” (Sæverud and Skjærseth, 2007: 43). ExxonMobil, for example, despite it had taken negative position towards CC mitigation, was detected in making significant investments in “co-generation that have increased energy efficiency and accordingly reduced GHG emissions from its refineries” (Sæverud and Skjærseth, 2007: 43). Shell, on the contrary, has made some investments in coal production that cannot be put down to the framework of a proactive climate strategy.²

The investigation of relations between strategy formulation and implementation is the important step in revealing how oil & gas industry actually perform in mitigating climate change.

The previous research studies on the topic indicated that the relationship between the CC strategy formulation, or what companies report, and what they do in practice is not clear-cut.

There are some empirical evidences that association between the levels of corporate environmental reporting and corporate environmental performance remains an unresolved issue (Al-Tuwaijri et al., 2004; Hughes et al., 2001; Patten, 2002 cited by Clarkson et al., 2007). Clarkson et al. (2007: 2) states that “the results of previous studies on the relation between

² Some sources like Time.com inform that coal production in US is falling. The decrease in coal production is being driven by market conditions —as shale gas “boom”, that has driven prices for natural gas down. That’s encouraged utilities to reject coal in favor of cleaner natural gas and coal producers to redirect their activities — a transition that has been accelerated by federal environmental regulations that will increasingly limit the sort of air pollution associated with old coal plants (Adler, 2013, Walsh, 2012).

environmental performance and environmental disclosure have been ambiguous”. Generally, the previous research overview of the studies devoted to investigation of disclosure/performance relation testifies in favor of mixed results and absence of the findings convergence in this field (Patten, 2002).

In the Master Thesis we build on the previous research but extend it in two areas. First, it was proved already that the pressure to mitigate CC varies between and within industries (Dunn, 2002). As far as the majority of studies focused on analyses across sectors, it would appear to be reasonable to take into consideration an individual industry what we believe would help us to obtain more detailed, comprehensive and valuable knowledge in terms of the relations between reporting and performance in CC mitigation. Such a narrowing of the research is beneficial in terms of uncontrolled external influences reduction (Sharma and Vredenburg, 1998). Second, it was decided to narrow our research to the borders of only one country. The investigation of SER practices in Russia has not obtained proper attention from researchers, even more so the relations between strategy formulation and implementation in terms of CO₂ reduction (Weinhofer and Hoffmann, 2010).

The idea of Master Thesis theme came out from our educational experience. We have been studying the Master Degree program in Sustainable Management since august 2012, the joint degree between University of Nordland, Norway and the Baltic State Technical University, Russia.

During the program we got introduced with the concept of SER and studied in practice how the social and environmental accounting and reporting embedded into the real circumstances and exist within the Russian and Norwegian borders. The business practice organized during studying in Russia gave us an overview of how the social and environmental practices are adopted to Russian realities and how they are realized, so we could compare and contrast them with the theoretical concepts learned in the universities.

During the education we got a wide perspective on SER but also we meet the wide uninvestigated area in this field as well as the need for new knowledge to be generated.

Our Master Thesis can be of interest to Russian oil & gas companies which concerned about environmental issues and in a view of the absence of research on the chosen topic in Russia our study may shed the light on the future development of the studied topic and also can be used as a background for further research.

1.2. Problem statement

We aim to investigate the relations between climate change strategy formulation and implementation among Russian oil & gas companies. Being more precise, we are going to evaluate the level of corporate reporting and the level of corporate performance in relation to CC mitigation and make reasoning on the relationships between them. Here we assume that corporate reporting reflects strategy formulation of the companies while strategy implementation is perceived as corporate performance in terms of CC mitigation.

Developing our problem statement we rest on and benefited a lot from the theoretical frameworks of social and environmental accountability and reporting that provide reflections on the phenomenon studied. We formulated the problem statement as follows:

What are the relationships between the level of corporate reporting and the level of corporate performance in relation to climate change mitigation strategies?

Moving further, in order to organize the research process in a most efficient way, the stated problem was restated in a form of exact research questions (RQ):

RQ1: How Russian oil & gas companies can be evaluated from the position of climate change governance?

RQ2: How Russian oil & gas companies can be evaluated from the position of climate change performance?

1.3. Thesis outline plan

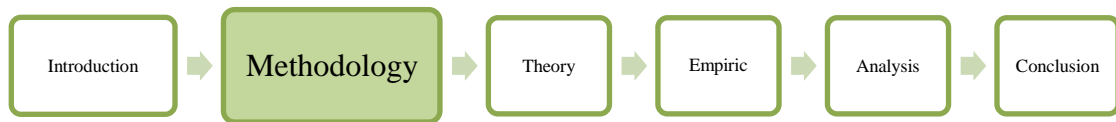
The Thesis consists of the six main chapters, namely:

- I. Introduction
- II. Methodology
- III. Theory
- IV. Empiric
- V. Analysis
- VI. Conclusion

Below the brief content of each chapter is presented:

- The INTRODUCTION Chapter gives the general background of the research, as well as states the problem that underlies our study;
- The METHODOLOGY Chapter introduces the details of the research covering such issues as research philosophy, research strategy, research design, research approach, data collection methods, research limitations and others;
- The THEORY Chapter gives a general overview of the theoretical concepts that constitute the framework or basis for our study;
- The EMPIRIC Chapter presents the empirical data gathered with accordance to the two dimensions studied: climate change formulation and climate change implementation;
- The ANALYSIS Chapter presents the findings of the research, as well as tests the reasoning obtained through the study within the chosen theoretical frameworks;
- The CONCLUSION Chapter constitutes the summary of the research, evaluates it and gives propositions for practical implementation and further research;
- APPENDIX presents the extended variant of empirical data gathered as well as some additional material that are aimed to bring the better understanding to a particular Chapter of our study.

II. METHODOLOGY



This Chapter is designed to expound the methodological framework of our research. One of the most important points which should be considered in the very beginning of the research is an understanding of philosophical issues that underlies every study. This is the aspect that demands of all researchers attention due to the next reasons: “1) it helps to clarify research design (what evidences are required, how they should be gathered, how they answers to research questions properly); 2) helps to identify the feasibility of research design (which design works and which not); 3) suggests how to adapt research designs according to the limitations of different structures and spheres” (Easterby-Smith et al., 2012:39).

The Chapter introduces the details of the research covering such issues as research philosophy, research strategy, research design, research approach, data collection methods, research limitations and others.

2.1. Definition of methodology

Developing their methodologies for doing research scientists are guided by different epistemological assumptions. Epistemology is regarded as “a general set of assumptions about ways of inquiring into the nature of reality” (Easterby-Smith et al., 2012:17). In its turn “methodology is a combination of techniques used to inquire into a specific situation” (Easterby-Smith et al., 2012:17). Methodology is referred to more than set of different technics. Methodology is the main means for constructing a research study in the correct and logical way. The methodology is a tool that gives the opportunity to investigate concrete problems and to generate new scientific knowledge.

In order to broaden the understanding of the methodology there is a need to consider its definitions given by other sources. In addition to this definition, Babbie (1990) simplifies the definition to the instrument that is used to find a solution to a problem. Otherwise speaking the methodology can be regarded from the one side as theoretical framework for a master thesis, from the other side as a way of gathering data.

The methodology for a master thesis depends on the research purpose for which the investigation is conducted. In order to achieve research goals the choice of the methodology should meet the master thesis requirements and conditions.

2.2. Research philosophy

The part devoted to research philosophy is known as epistemology which, in turn, comprises two contrasting views of how social science research should be conducted: positivism and social constructionism. In order to frame his or her study researcher has to elaborate on one of the positions explained below although *“here is no single philosopher who sticks to all aspects of one particular view”* (Easterby-Smith et al., 2012:22).

Positivism looks at the social world as existing externally world in which all phenomena can be measured through objective methods. Easterby-Smith et al. (2012) argue that the main features of positivism are as follows: the observer should be independent from his study; all concepts should be defined so that they can be measured, the main tools of study are hypotheses and deduction, all explanations and findings must demonstrate causality. In general, positivism is about utilizing hypothetical-deductive method and statistical causal analysis and correlations.

The next epistemology to be mentioned is social constructionism. *“It claims that reality is not objective but is socially constructed and determined by people”* (Earterby-Smith et al., 2012:58). This epistemology focuses on *“understanding and appreciating of different experience people have rather than external causes and fundamental laws to explain reasons and motives of their behavior”* (Easterby-Smith et al., 2012: 23-24). Basing on the foregoing we can assume that our research work refers more to a social-constructionism study. The social constructionism is implemented during the qualitative and quantitative parts of our work, so the concept is used during the steps involving the analyzing companies’ governance and performance. Triangulating between qualitative and quantitative data, we were able to *“identify and represent as accurately as possible the phenomena under investigation”* (Easterby-Smith et al., 2012: 68).

On the basis of all the above-stated, the social constructionism philosophy will be presented through the prism of the qualitative and quantitative technics with the help of following instruments: 1) Governance analysis consists of financial and non-financial reports’ analysis (in our case designed by CERES); 2) Performance analysis is based on the quantitative

analyses of actual GHG emissions by each company (Clarkson et al., 2007; Woynillowicz, 2006), the mobilization of resources to accomplish the CC strategies (Sæverud and Skjærseth, 2007) and review of companies’ media profiles (Adams, 2004). Graphically the research technics are presented below.

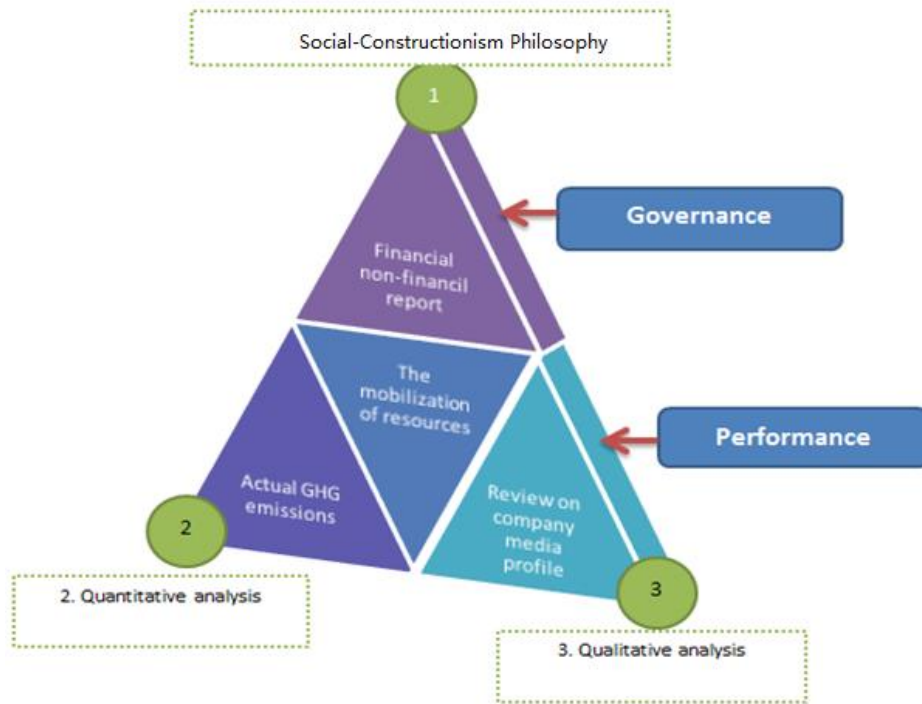


Figure 2.2.1 Social constructionism philosophy based on the qualitative and quantitative analyses

In accordance with the main purpose of our work we can assume that our research work more appreciates social constructionism philosophy and triangulates between qualitative and quantitative data. Otherwise speaking, we used social constructionism philosophy that is based on the different technics. Thus, the research on different levels ambiguously contains social constructionism philosophy and triangulate between qualitative and quantitative data.

2.3. Research strategy and research context

According to Yin (2003), each strategy can be used for exploratory, descriptive and explanatory research. The chosen strategy will enable researchers “to answer particular research question(s) and meet the need objectives” (Saunders et al., 2007:135). According to Saunders et al. (2007), there is no research strategy that inherently superior or inferior to any

other. That is why every research strategy would be appreciated if it helps to answer research questions.

Saunders et al. (2007) argue that there are many research strategies such as experiment, survey, case study, action research, grounded theory, ethnography and archival. Each of them has specific features. We paid attention to the case study and archival study. The combination of this strategy gave us an opportunity to generate new knowledge from our findings and develop the theory.

The archival research is about “*using administrative records and documents as principle source of data*” (Saunders et al., 2007:143). As you will see below, the biggest part of our research study was based on the companies’ reports data, which in turn can be regarded as administrative documents.

According to Yin (2003), the case study is about a strategy for conducting research that concerns an empirical study of a particular contemporary phenomenon within its real life context. As to our research study, the case study does not conflict with the archival research. Moreover, the case study appeared to be a projection of the archival research. Particularly, in the next Chapter we are going to discuss a case study of Russian oil & gas companies. Within the frame of case study, we used the archival data utilizing annual, sustainability and environmental reports of each Russian oil & gas company under our sample.

In order to improve our knowledge we utilized “*the research spiral within a specific context and with a clear purpose*” (Saunders et al., 2007: 141). As Hopper and Powell (1985) note the research spiral connects philosophical assumptions, theoretical background and research methods in coherent whole. Every research activity consists of 4 parts; all of them are connected with context and purpose: planning, acting, observing and reflecting. The brief description of the spiral study is presented below.

The first step of the research is to choose the sample for the analysis. The Russian oil & gas industry was chosen for the investigation. Typically, the robust results can be achieved utilizing the same criteria for the comparison, the investigation of individual industry provides more detailed knowledge and information about companies’ responses and their strategies to CC (Dunn, 2002). That is why we considered companies from the one industry and geographical area. This condition allowed us to avoid unguided external affects (Sharma and Vredenburg,

1998). Later on, the advantages of focusing on the one industry will be presented in the credibility paragraph.

Before we started analyzing Russian oil & gas companies, the research plan had been constructed. Firstly, we had to define the issues of concern, and formulate the research question(s). Then, we defined the frames of references which would help to systemize the empirical data. Further, we chose companies for analysis in order to make the boundaries of our research study and identify the structure of governance, performance and mass-media analysis.

Further, conducting the research study, it was necessary to identify “*the key words*” (Saunders et al., 2007: 140). That is why we needed to define precisely what was relevant to the research in terms of key words. We tried to predict the results of our analysis in order to expect definitive findings.

Secondary, we continued with collecting primary and secondary data about governance, performance in the largest oil & gas companies in the Russian Federation in order to construct content analysis. Secondary and primary data was analyzed and the most relevant information was chosen. As well as we accumulated the information obtained in order to avoid distraction, and made choice of useful and strong data. More detailed characteristics of our data collection, operationalization and measurements, will be presented below in this Chapter.

Also we needed to define parameters of our research work. Based on the Bell (2010), we need to be clear about the following: Language of publication – English; Subject area – Companies responses to climate change; Business sector –oil & gas companies; Geographical area – the Russian Federation; Studied period – From 2008 to 2012; Literature type – Company annual reports, sustainability reports, field related books, sustainability journals, newspapers.

Thirdly, our findings were modified in new knowledge. In our study this knowledge constituted the answer to the research questions and the problem statement solution.

The combination of research strategy helped us to answer the research questions, what was the most important factor in constructing the research strategy. If the research question was solved, we could conclude our study in effective and efficient way; if not, we would continue our research work using new cycle. But if our findings and knowledge were suitable and positive towards our problem statement, our Master Thesis could be used for future improvements by other researchers.

2.4. Research design

According to Easterby-Smith et al. (2012), the next step after framing research is about organizing research activity, including the collection of data in a way with the help of which the research objectives are likely to be achieved. Research design is “*about making choices about what will be observed, and how. Research design explains and justifies what data is to be collected, how and where from*” (Easterby-Smith et al., 2012: 38). Good research design is extremely important for achieving successful results.

A research design is the way that constructed our research study. Saunders et al. (2007) puts research design as “*the general plan of how you will go about answering your research question(s)*”. In addition, it contains clear goals based on the research questions sources, presents and explains the sources from which you intend to collect data, as well as discusses ethical issues (Saunders et al., 2007: 131).

2.4.1. Types of research design

Research approaches can be divided into 3 categories: exploratory studies, descriptive studies and explanatory study. It would be reasonable to expound all of them briefly.

Exploratory research design is used in order to clarify the understanding of a problem. The main advantage of exploratory research design is “*flexibility*” (Saunders et al., 2007: 131). Often exploratory research design is used in situation where the problem definition is not clear.

A descriptive research design is needed to “*portray an accurate profile of person, events or situation*” (Robson, 2002: 59). Descriptive research design can include a bit from the exploratory research design and a bit from explanatory research (Saunders et al., 2007). In order to construct the descriptive research there is a need to have a clear understanding about the topic on which you collect data.

The purpose of the explanatory research design is to find out the relation between variables. Sekaran (2003) argues that causal research is used when it is necessary to study a situation or a problem in order to find out cause-effect relationship among variables.

In our Master Thesis we aimed to find the nature of relations between the level of a company’s reporting related to CC mitigation and the level of its performance towards climate change. The research can be characterized as descriptive combining the features of exploratory and explanatory research design. Firstly, we needed to search the literature; secondly, to collect

qualitative data (CC governance evaluation and mass-media profiles assessment) and a bit quantitative data about real emission indicators (GHG emissions performance). As a result, we aimed to define the relationships between Russian oil & gas companies’ climate change “talk” and “walk”.

2.5. Research approach: multiple methods choices – combining quantitative and qualitative techniques

In order to investigate different problems researchers use following approaches: quantitative and qualitative. Both methods are important, but quantitative and qualitative methods are used for different purposes (presentation by Bjorn Willy Amo, 21th of March, 2013, Slide 11). The choice between them depends on a research question.

It would be easy to fall into the trap of thinking that one research approach is “better” than another. They are “better” at doing different things. As always, “*which is ‘better’ depends on the research question(s) a researcher seeks to answer*” (Saunders et al., 2007: 116).

We decided to combine research approaches in our study. The term mixed methods refers to “*both quantitative and qualitative data collection techniques and analysis procedures are used in a research design*” (Saunders et al., 2007: 145).

From the one side, in our case we used quantitative analysis: data analysis procedure (statistics) that generated numeric data. The Russian oil & gas companies’ performance formed numeric data such as total GHG emission and total resource mobilization. From the other side, we decided to use qualitative approach. There are many approaches that are used in the frames of qualitative research such as: in-depth interview, focus group, ethnography and as well analysis of feedbacks, reports or media clips. The qualitative data in our study is presented as data analysis procedure, which consist of governance analysis based on the CERES criteria and mass-media observation.

That is why we can assert that in our research work we used mixed methods that complement each other and enable to compare levels of companies’ governance and performance in a most effective way.

2.6. Data collection methods

This research consists both of primary and secondary data. Secondary research findings are presented by the means of literature review and mass-media analysis, while the findings of the primary research are presented in the Empiric Chapter.

Using primary sources allowed us to construct the main part of our research study. According to Saunders et al. (2007) primary literature includes published sources such as reports and some central and local government publications such as White Papers and planning documents.

Primary literature sources are more difficult to locate, although an increasing number are now being made available via the Internet. We chose annual, sustainability and environmental reports as main methods for primary data collection that were downloaded from the official web-sites of Russian oil & gas companies. In accordance with Saunders et al., (2007) reports are not well indexed in the literature, and researchers need to rely on “*specific search tools*”. In our case we chose CERES criteria, actual GHG emissions by each company and the mobilization of resources to accomplish climate change strategies in order to have our findings structured.

Secondary data “*can provide a useful source from which to answer, or partially to answer, our research question(s)*” (Saunders et al., 2007: 246). We considered the possibility to reanalyze and evaluate secondary data that had already been collected for some other purposes.

Secondary data can be divided into 3 parts: “*Documentary*” (Organization communications’ such as e-mails, letters; Organization web-site, Journals, Newspapers, Interview transcript; Media accounts, including TV and radio, Video recording); “*Multiple sources*” (Financial Times country reports, Books, Industry statistics reports, Government publication); “*Survey*” (Governments’ survey, organizational survey, Labour market trends) (Saunders et al., 2007: 59). In our research we focused on the Documentary and Multiple Sources of Secondary Data, particularly on the companies’ web-sites, environmental and economic journals, and Internet sources, industry statistic reports and mass-media accounts, including TV and radio with regard to environmental issues and climate change involvement within Russian oil & gas companies. Most of the secondary data was founded via online services. Some of the journals were gathered at the Yeltsin Library located in Tyumen region and the Tyumen Regional Scientific Library named after Dmitri Mendeleev. Most of newspapers were used as a source of the

topical events connected with oil & gas environmental issues and climate change during the 5 years.

2.6.1. Content analysis

Content analysis was used as the main research method in understanding the responses of Russian oil & gas companies' policies towards climate change. According to the Guthrie and Abeysekera (2006), the combination of social environmental reports with annual reports in analysis (in our case governance and performance evaluation) may provide fruitful and strong information. Content analysis *“provides both economic and non-economic performance information and is expected to provide a more complete account of the performance of an organization”* (Guthrie and Abeysekera, 2006:5).

In addition, Guthrie and Abeysekera, (2006) claim that the chosen data (include in some facts, or omit form) presented at the annual, sustainability and environmental reports can be a significant message to stakeholders, and in our situation this information was significant for us as researchers. In general, content analysis can be characterized as one of the most efficient and effective approach of understanding and analyzing social and environmental reports.

Parker (2005) notes that researchers in the field of social environmental accounting use content analysis as the dominant research method for collecting empirical evidences. We also chose this method for our study as the most appreciated basis for the investigation. Furthermore, in accordance with Parker (2005) findings of the content analysis are the main research method in the social and environmental accounting (SEA) traditions.

Traditionally, content analysis has been used in the SER data to assess *“the extent of disclosure of various items in annual reports of chosen companies”* (Guthrie and Abeysekera, 2006: 6). As for our study we used content analysis in order to generate and find out information that would enable us to evaluate the levels of climate change governance and performance under the Russian oil & gas companies' sample. The analysis of companies' performance and governance provided both economic and non-economic information about climate change performance and governance.

Content analysis involved codifying qualitative and quantitative information into *“pre-defined categories”* in order to derive patterns in the presentation and reporting of information (Guthrie and Abeysekera, 2006: 15). In our case, content analysis was the analysis based on gathering the empirical data in order to collect, evaluate and compare information regarding the different

levels of reporting and implementing CC mitigation strategies. Specifically, we used content analysis by codifying the text into categories based on the chosen criteria. The governance information was based on the 14 CERES criteria (see Table 2.6.1). The companies’ performance were analyzed by evaluating the their GHG emission intensity in dynamics (2008-2012), companies’ expenditures in environmental programs, particularly in air protection, and the companies’ mass-media profiles based on the gathering key words in the print media and Internet sources about the Russian oil & gas companies. Below more detailed information about stages of analysis is presented.

2.6.1.1. Climate change governance assessment

The first stage of the analysis was devoted to the climate change governance assessment. The concept of climate change governance was chosen in order to frame and give concrete expression to the idea of how companies formulate CC strategy or how they portray themselves. *The Climate Change Governance Checklist* was utilized for evaluating the governance practices of the chosen companies and hence gave an assessment of companies’ portrayal and strategy formulation (Cogan, 2006).

The checklist proposed by CERES consists of 14 governance steps that companies can take to proactively address climate change. CERES ranks the company on a 100-point scale, “each of the five governance categories carries a different number of maximum points to reflect the number of actions available and their relative importance to the overall score” (Cogan, 2006: 3). The CERES criteria are presented below in Table 2.6.1.

Table 2. 6. 1 The Climate Change Governance Checklist (CERES)

Governance Category	Governance Action
Board Oversight	Board committee has explicit oversight responsibility for environmental affairs. Board conducts periodic review of climate change and monitors progress in implementing strategies.
Management Execution	Chairman/CEO clearly articulates company’s views on climate change and GHG control measures. Executive officers are in key positions to monitor climate change and coordinate response strategies. Executive officers’ compensation is linked to attainment of environmental goals and GHG targets.

Public Disclosure	Securities filings identify material risks Sustainability report offers comprehensive, transparent presentation of company response measures
Emissions Accounting	Company calculates and registers GHG emissions savings and offsets from projects Company conducts annual inventory of GHG emissions from operations and publicly reports results Company has set an emissions baseline by which to gauge future GHG emissions trends Company has third party verification process for GHG emissions data
Emissions Management & Strategic Opportunities	Company sets absolute GHG emission reduction targets for facilities and products. Company participates in GHG trading programs to gain experience and maximize credits. Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks, and maximize opportunities from changing market forces and emerging controls.

Source: Cogan (2006)

For the purpose of our study regarding the impossibility of utilizing the CERES methodology on account of its complexity, the tightness of information that we as researchers were able to obtain, the lack of knowledge and professionalism and for other reasons, it was decided to simplify the methodology with regard to other publications like Woynillowicz (2006) where alternative CERES methodology was employed.

As described in above we utilized the content analysis of reports as a technique for gathering data. It implies codifying information in “*pre-defined categories*” (in our case designed by CERES) in order to define patterns in the presentation of the information and make a reasoning on the studied problem (Guthrie and Abeysekera, 2006).

The work material was gathered at the annual, sustainability and environmental reports from 2008 to 2012 years. We paid attention to the calling articles and key words in the reports: company view on climate change, environmental policy, regulatory and material risks, companies’ priorities, messages from CEO, response measures and greenhouse gas emission trends. Each item was coded to the section under which it had appeared according to the notional considerations and from the perspective of sensitivity (Guthrie and Abeysekera, 2006).

Each section was awarded a check mark if the quantity and quality of items coded under it were considered sufficient. Each company studied scored check marks for all sections and was given a total amount of check marks. The highest score 14 assumes that the superior governance practices were performed by a company during a period studied and the lowest score 0 – the poorest governance practices towards CC mitigation. For better articulation of the results pertaining to the CC governance evaluation it was decided to assign all the companies under the sample a particular level of governance: *superior* (if a company scores more than 80% of total amount of check marks), *satisfactory* (if a company scores from 50% to 80% of total amount of check marks) and *inferior* (if a company scores less than 50% of total amount of check marks).

2.6.1.2. Climate change performance assessment

Climate change performance assessment was threefold and was based on the analyses of actual GHG emissions by each company (Clarkson et al., 2007; Woynillowicz, 2006), the mobilization of resources to accomplish the CC strategies (Sæverud and Skjærseth, 2007) and review of companies’ media profiles (Adams, 2004).

A key research design issue here was to develop a reliable model for studying companies’ environmental performance. *“The difficulty in assessing environmental performance is well documented in the literature”* (Ilinitich et al., 1998 cited by Clarkson et al., 2007: 6). As far as we sought to evaluate relative environmental performance in our study, we followed the existing practices in this sphere and developed our CC performance study model as follows.

The multiply methods were employed not accidentally but with the view to broaden the content analysis, chiefly associated with reports studying and focus of which is traditionally considered narrow (Guthrie and Abeysekera, 2006). According to Guthrie and Abeysekera (2006: 5) *“researchers in the field of social environmental reporting (SER) have, according to Parker (2005), used content analysis as the dominant research method for collecting empirical evidence”*.

But in order to provide richer empirical understanding of SER it was worth to combine content analysis with a variety of other sources and methods. That is why in order to accomplish the conventional content analysis of SER the following methods were chosen: the quantitative analysis of actual GHG emissions by each company, assessment of the environmental investments and review of companies’ media profiles. According to Guthrie

and Abeysekera (2006) the combination of sources and methods of analysis of SER material should also provide more robust empirical evidence for understanding of SER practices, a richer understanding of the relationship between the outside-inside perspectives and richer empirical observation of actual practice.

The first stage of the analysis was the GHG emission performance assessment. To compare and contrast the climate change performance of each company the next parameters were employed: annual absolute GHG emissions (kilotons) (Clarkson et al., 2007) and GHG emissions per million rubles of revenue (per million (mln) USD for Lukoil) (Woynillowicz, 2006). The latter was utilized as a measure of GHG emission intensity in order to adequately evaluate company’s performance with the respect to the scope of its operations (Woynillowicz, 2006).

Data was collected from companies’ websites, environmental and/or sustainability reports where each company’s most recent absolute GHG emissions were publicly reported. In addition, historic financial (revenue) and absolute GHG emissions were compiled for the studied period and used to detect the change over time in the GHG emission intensity (measured as tons of GHG emissions per mln of revenue generated). According to Woynillowicz (2006: 43) *“this metric had to be developed and utilized because of the lack of consistent reporting by companies of the more standard metric for comparison, production carbon intensity (GHG emissions per barrel of oil equivalent produced)”*.

The second stage involved the analysis of the mobilization of resources to accomplish the strategies declared by the companies. The formulae of the resource mobilization assessment are presented in the Empiric Chapter in details.

The companies’ mass media profiles assessment was the third stage of the companies’ performance evaluation. The methodology of mass media assessment part was largely based on the previous studies in the field of SER, mostly on the papers *“The ethical, social and environmental reporting-performance portrayal gap”* by Adams (2004) and *“Do Australian companies report environmental news objectively?”* by Deegan and Rankin (1996). The publications of other authors like Antilla (2005), Sampey and Aoyagi-Usui (2008) were also consulted in the process of writing and completing the Empiric Chapter.

As was stated above we largely relied on the research method employed by Adams (2004) and Antilla (2005) in their studies, the main principles of which will be developed further.

Initial searches for data from non-corporate sources were conducted on all years starting from 2008 to 2012. A wide variety of sources including databases, field related books, Internet sites, publications, articles, press releases were consulted to make up a clear picture of studied companies environmental performance in respect to climate change (Adams, 2004: 739). We tried not to confine our search to the period and scope studied, so we aimed to cover all information that was available and relevant to our study and that we managed to obtain.

Data collection was performed in two stages. First, we conducted a search of the world wide web using the search terms “climate and change”, “global and warming”, “environmental policy”, “greenhouse gas emissions”, “Gazprom”, “Rosneft”, “Lukoil”, “Surgutneftegaz”, “violationg”, “exceeding”, “environmental damage”, “negative environmental impact”, “alternative energy”, “Kyoto protocol”. We managed to consult such Internet sources as “Green Peace” official website, “RusEcoUnion” official website, “Bellona Foundation” official website, news agency “Federal Press”, informational portals “Offshore energy today”, “Neftyaniki.ru”, “Neftegas.ru” and others. By reading the headings and abstracts it was possible to narrow the information and select only relevant publications. Second, we conducted a search of the print media. We repeated the process with the search terms, during the screening process we took notes on relevant information and managed to collect qualifying abstracts from such papers and magazines as “Korrespondent”, “Kommersant”, “The Moscow Times”, “The Guardian”, “Nezavisimaya Gazeta” and others. Relevant articles and other publications used in our work were obtained through the Tyumen Regional Scientific Library named after Dmitri Mendeleev, the Yeltsin Library and electronic versions of the print media listed above.

With the view of complexity and extensiveness of the climate change performance assessment it was decided to summarize the results, i.e. define the level of CC performance for each company under the sample in the same manner as within the CC governance assessment: each company was assigned to the level of performance: *superior*, *satisfactory* or *inferior*. Such an assignment is believed to simplify the understanding and interpretation of results in terms of climate change performance. The procedure of the performance level assignment will be discussed in details further in the Analysis Chapter.

As we aimed to investigate the relationships between corporate climate strategy formulation and implementation we designed the categories for each pair of relations: positive, negative or neutral. If *positive* relations between strategy formulation and implementation are revealed it

indicates the cases where the higher level of governance deployed facilitates the higher level of performance or vice versa; if **negative** relations between strategy formulation and implementation are revealed it indicates the cases where the low level of governance deployed facilitates the higher level of performance or vice versa; the relations are considered **neutral** in cases where no relations described above are identified. Note that the direction of the relations between the level of CC governance and performance could be determined or stipulated both from the sides of CC governance and CC performance levels.

2.7. Unit of analysis

One equally important point was the identifying the unit of analysis. According to Easterby-Smith et al. (2012) *“the unit of analysis is the entity that forms basis of any sample. It is important to clarify the unit of analysis in advance because it is the basis for collecting and collating data”* (Easterby-Smith et al., 2012: 65). Based on this definition we could develop the units of the analysis as the level of governance and level of performance performed by each Russian oil & gas company under our sample: Gazprom, Lukoil, Surgutneftegaz and Rosneft. The utilization of a level of governance and a level of performance provided complete, *“reliable”* and *“meaningful”* data for our study (Guthrie and Abeysekera, 2006:16). The units of analysis satisfied the research purpose of our analysis.

2.8. Credibility of research

According to the Guthrie and Abeysekera (2006) in order to provide effectiveness of our study it is necessary to clearly define the categories of classification, to ensure the systematical data capture and ascertain that analysis demonstrate some characteristics for reliability and validity.

In terms of used research approaches and instruments that were presented above, we would like to put the emphasis on the validity of our research. *“Validity is concerned with whether the findings are really about what they appear to be about”* (Saunders et al., 2007: 150). Easterby-Smith et al., (2012), in turn, defined validity as the sufficient number of perspectives that have been included into research.

The empiric data which was collected in the frame of the conducted research makes it is possible to infer that empiric data obtained and the analysis based on it is valid and reflects the real situation of the Russian oil & gas companies as primary data was gathered from official sustainability, environmental and annual reports, while secondary data was collected

from the prestigious journals and newspapers concerning environmental problems. Most of secondary data was collected in Russian language in order to understand how Russian mass-media reflect the responses of Russian oil & gas companies. This appeared to be an interesting point of the research that mass-media information was to be translated in English. The interpretation of the findings is generated in the Empiric Chapter.

Both types of data collected, primary and secondary, complemented each other by making the light on the topic but from the different points of view. Primary data such as sustainability and annual reports, and mass-media publications that was collected as secondary data was verified in accordance with the official web-sites of the Russian oil & gas companies, web-sites of media resources, and different environmental print media. This fact testifies in favor of the research reliability. According to Easterby-Smith et al. (2012: 28) research reliability can be defined by answering the following three questions: “*Will the measures yield the same results on other occasions?; Will similar observations be reached by other observers?; Is there transparency in how sense was made from the raw data?*”. Sources from primary and secondary data are available for everybody and are easily accessible via Internet. That is why we can assume that other researchers and observers, who decide to study the topic, are likely to come to the similar conclusions. The differences could be posed in using different coding instrument and key word while conducting content analysis. In our study, the one industry was chosen for consideration in order to get more transparent results, particularly “*by focusing on one industry the effect of uncontrolled external influences can be reduced*” (Weinhofer and Hoffman, 2010:77).

Nevertheless, any research can have the features of uncertainty because the received information from the primary and secondary data are interpreted by researchers in a subjective way and can differ from the original source of data issuing. Based on this fact, we can mention that future research works with such an algorithm can be considered with a portion of uniqueness due to the fact that research is always affected by the background of every particular researcher. This fact might be regarded as possible weakness of any research.

In general, we believe that the results of the master thesis will be considered reasonable and useful in terms of generation of new scientific knowledge. Coming to the transparent issues, we should mention that the empiric data analysis was made by two researchers that helped to reduce faulty interpretation of collected data.

2.9. Limitation of the research

There have been several limitations of the research. Firstly, the number of companies from the research was limited. The Russian oil & gas companies were chosen basing on the 2 ranks: Rank in Top 100 largest Russian companies by capitalization and Rank in Top 500 of largest oil & gas companies by revenue. That is why the research was limited to the four Russian oil & gas companies. Thus, potentially for the purpose to enhance the reliability of the study for future works the sample might be increased or changed in compliance with other ranks. One of the limitations which we also would like to figure out is the time frame. The time frame of the study was limited to the period from 2008 to 2012. Thus, the research work was based on the medium term. The limited time frame might have not provided the proper understanding of the studied issue. Thus much wider time frames for such a research activity are required.

Secondary, in connection to the research units, level of governance and level of performance were analyzed with accord to the Russian oil & gas companies' reports and the determined mass-media sources that may have specific deviation from the objective information or the reality. The limitation is that the subjective manner and sense were studied, the narratives of SER must be captured by the coding tools (Deegan and Rankin, 1996).

Thirdly, among other limitations is trustworthiness. Such a limitation is more connected with the analysis of the secondary data such as different Internet sources and journals. We assumed that mass media portrayal of each company is independent and is not affected by the companies themselves. Arguably, the company can get pressure to the mass-media in order to improve their reputations and promote themselves by means of mass-media (Dyck and Zingales, 2002). Therefore, we need to be aware of the fact that our findings may be biased.

2.10. Ethical aspects

Ethical issues were given a high priority during the completion of our master thesis. *“Ethical concerns are likely to occur at all stages of your research project: when seeking access, during data collection, as you analyze data and when you report them”* (Saunders et al., 2007:196). During the analysis we considered the importance to be objective. Conducting our research we tried to be as objective as possible. *“Without objectively collected data, the ability to analyze and report the work accurately will be impaired”* (Saunders et al., 2007: 187). As researchers we understood the need not to distort facts and findings collected. We respected author rights at all stages of our research. For this reason we endeavored to utilize

the secondary data in way that “*protect the identities of those who contribute to its collection or who are named within it*” (Saunders et al., 2007:195).

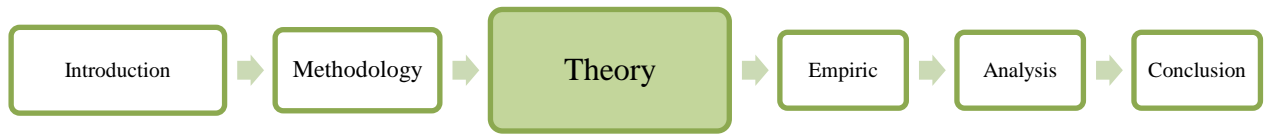
2.11. Summary

Summarizing the Methodology Chapter, we would like to signposting the main parts presented above. First, we discussed research from the epistemological point of view. We defined the research on different levels that is placed under social constructionism philosophy and triangulates between qualitative and quantitative data. The Master Thesis has features of descriptive combining the features of exploratory and explanatory research design.

Second, we presented the framework of our research. The descriptive research design allowed us to portray companies profile towards climate change responses from the governance and performance sides. The Master Thesis combines the collection of primary and secondary data in order to fulfill the objectives of our research.

During the research, we aimed to analyze four Russian oil & gas companies in terms of their position towards the CC issues. We presented the way of evaluating the CC governance by using CERES criteria and the CC performance by counting GHG emission trends and mass-media opinion in relation to companies’ responses. We also counted on the importance to obey ethical principles.

III. THEORY



This Chapter sets the frame of references which were used to examine the problem statement of the Master Thesis. In our research work we aimed to find the nature of relations between the extensiveness of a company’s disclosure related to CC mitigation and the level of its environmental performance towards climate change. The theoretical framework is used to explain empirical data. It was decided that several different topics needed to be considered. Firstly, we are going to describe the concept of business responses to CC. Then, we are going to focus on understanding of the two alternative theories including voluntary disclosure theory and social political theory.

3.1. Business responses to climate change

Within the emphasis on the CC problems and corporate environmental responsibility researchers focus on the different industries’ impacts towards CC. The role of business in sustainable development is clearly articulated by different authors from the different points of view. These articles urge companies to pay attention to the constructing environmentally responsible business. In this regards, corporations follow this tendency by improving “*measures and elements of environmental performance*” (Ilinitch et.al., 1998: 2). According to Khanna and Anton (2002:1) “*a growing number of firms are taking a strategic view towards environmental management and adopting environmental management practices (EMPs), setting environmental standards for suppliers, training employees, undertaking environmental auditing and environmental cost accounting and publishing environmental information in reports made available to the public*”. The question arises which companies adopt their strategy in sustainable way for their ethical devotion and which companies do it for the external pressure. Within the business field the corporate sustainability strategy means not only talk about environmental adherence, but to voluntary include environmental protection considerations into business operations (van Marrewijk and Werre, as cited by Woynillowicz , 2006:16).

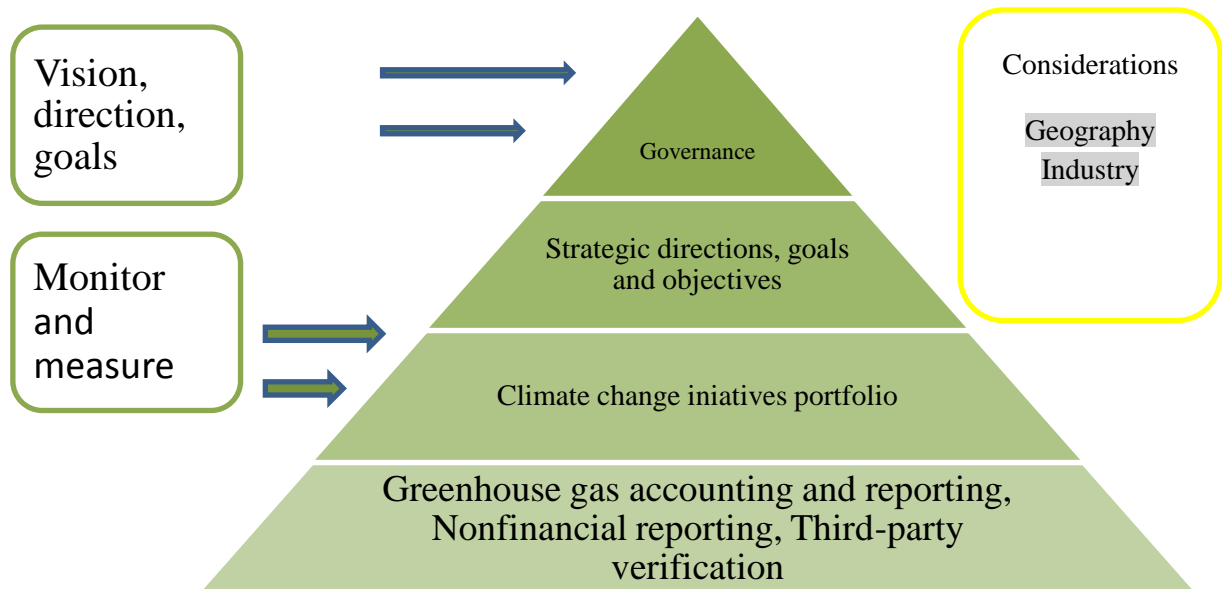
In their study of corporate strategic responses to climate change in oil & gas industry, Skjærseth and Skodvin (2003) resume that in spite of oil & gas companies have almost the same business

opportunities and threats brought by climate change, their climate change strategies and engagements may vary significantly. While some companies follow the reactive direction abiding formal requirements in terms of environmental obligations, others act in accordance with environmental volunteerism by improving and constructing business as a green target group. It is possible to explain that corporate strategies depends on the different points, particularly the climate strategies of each company reflect the companies' history, legislation, own interests in the matter, as well as corporate culture, market level and position (Levy and Rothenberg, 2002).

The challenge is seen very clearly by comparing the companies' environmental strategies; nevertheless, some research works are engaged in an attempt to provide comparison of corporate strategies in terms of the CC responsibility. For instance, Woynillowicz (2006) conducted an empirical study of the parallel between how Canadian oil & gas companies carry an environmental responsible face and how they actually perform towards climate change mitigation.

Ernst & Young group suggests companies to follow the framework designed by the company to adopt and incorporate CC mitigation strategies and practices into their businesses.

Ernst & Young researchers deem that many “*organizations are already well implemented*” in their business response to CC (Ernst & Young, 2009:4). Talking about business responses to climate change companies should focus on the two important actions. Firstly, undoubtedly there is a need to set carbon emissions baseline in order to prove positive environmental performance. Secondary, in order to gain competitive advantage by means of using CC strategy and be really proactive in climate change questions, Ernst & Young researchers propose to use climate change pyramid that includes the next stages or layers: at the bottom lie the greenhouse emissions accounting and reporting, third-party verification, nonfinancial reporting, and on the top is governance practices involved. The simplified form of Ernst & Young pyramid is illustrated below.



Source: Ernst & Young report of choosing the right business strategy, 2009

Figure 3.1.1 Climate change framework: a path to transformation

The foregoing pyramid can be used not only by companies that wish to implement robust algorithm of climate change strategy, but also by researchers in comparison analysis of climate change governance and performance. Ernst & Young developed a framework upon which it is possible to compare strategy of each company. The original Ernst & Young climate change framework contains 3 key areas: Vision, direction, goals; Execution; Monitor and measure. For the purpose of our research study we focuses on the first and the last key area of climate change framework.

Understanding the companies’ visions, directions, goals and arrangements gives an opportunity to analyze the organizational climate change strategy. Moreover, a clear insight to companies’ vision towards sustainability and climate change helps to understand “*the climate change level of the organization*” (Ernst & Young, 2009:12). First of all, the governance analysis is based on the investigation of the “*general strategic direction, climate change goals and objectives, managing risks and assessing opportunities, and managing the resulting initiatives portfolio to execute on the climate change strategy*” (Ernst & Young, 2009:12). The next step of the climate change evaluation is the observation and learning of companies’ GHG accounting and reporting, nonfinancial reporting (e.g., climate change).

Unquestionably, every organization can be regarded as special and inimitable in their strategies because “*no two organizations will have identical carbon footprints or business models*” (Ernst & Young, 2009:12). Thus, notwithstanding, it is possible to split out the individual companies

features of climate change responses under the determinate structure and framework due to now companies announce about their climate change strategies one way or another.

3.2. Theoretical basis: two competing predictions

In the capacity of the theoretical basis for our study we use two competing predictions from the two alternative theories. The first prediction is derived from voluntary reporting theory (Dye, 1985; Verrecchia, 1983 cited by Clarkson et al., 2007) and the other - jointly from socio-political theories (Patten, 2002). The current paragraph is devoted to the brief discussion of all of them.

3.2.1. Voluntary Disclosure theory

On the one hand, voluntary disclosure theory (Dye, 1985; Verrecchia, 1983 cited by Clarkson et al., 2007) predicts a positive association between one company’s environmental performance and the adequacy of environmental disclosure produced by the company. *“The notion is that superior environmental performers will convey their “type” by pointing to objective environmental performance indicators which are difficult to mimic by inferior type firms”* (Clarkson et al., 2007: 2). Inferior performers prefer to talk less about their environmental performance or to be silent on this subject at all. Such a tactic helps inferior performers to be perceived by the investors and other stakeholders as the “average type” firm. The factors such as proprietary costs associated with disclosure about environmental performance (Verrecchia, 1983 cited by Clarkson et al., 2007: 2) and uncertainty as to whether the firm is aware of its type (Dye, 1985 cited by Clarkson et al., 2007: 2) maintain disclosure equilibrium within the theory.

3.2.2. Socio-political theories

On the other hand, socio-political theories including political economy, legitimacy theory and stakeholder theory (Patten, 2002) forecast a negative association between one company’s environmental performance and the adequacy of environmental disclosure produced by the company. According to Patten (2002) the integrity and completeness of an environmental disclosure is *“a function of exposure to public pressure in the social/political environment. According to these theories, companies facing greater exposures, as companies with poorer environmental performance could be assumed to do, would be expected to provide more extensive environmental disclosures, and as such, a negative association between performance and disclosure is posited”* (Patten, 2002:765).

According to Guthrie and Parker (1990) environmental and social disclosures *“appeared to reflect public social priorities, respond to government pressure, accommodate environmental*

pressures and sectional interests and protect corporate prerogatives and projected corporate images” (Guthrie and Parker, 1990: 171-172 cited by Williams, 1999: 210).

According to Gray et al. (1995) socio-political theories are most informative in terms of penetrating into CSR and SER analyses.

Gray et al. (1988) see environmental and social accounting disclosures as *“a mechanism that organizations utilize in order to enhance their status, provide information to stakeholders and discharge the social contract between the entity and the relevant public”* (Gray et al., 1988 cited by Williams, 1999: 210).

Nevertheless, the literature does not always pay too much attention to the distinctions between the theoretical perspectives listed above (Gray et al., 1995). That is why it seems reasonable to clarify the main proposition of stakeholder, legitimacy and political economy theories in relation to the SER studying.

3.2.2.1. Political economy

According to Gray et al. (1996), legitimacy theory and stakeholder theory were derived from a broader theory called the political economy theory.

“The political economy has been defined by Gray et al., (1996) as “the social, political and economic framework within which human life takes place” (Gray et al., 1996: 47 cited by Deegan, 2002: 292).

The political economy perspective implies that society, politics and economies are inseparable, so that, for example, economic issues cannot be evaluated without considering the political and social context in which they are placed.

Guthrie and Parker (1990) argue that the corporate social and environmental reports produced by companies cannot be seen as neutral documents not affected by the environment in which these companies operate but rather be seen as an interplay, a dialogue between companies and their environment in the attempt to accommodate mutual interests.

Gray et al. (1996) develop the implications for SER analyses with accordance to the two streams of political economy: classical and bourgeois. From the latter, in turn, the legitimacy and the stakeholder theories originated.

“Bourgeois political economy concentrates on the interactions of actors within a pluralistic world” (Clark, 1991 cited by Williams 1999:211). “This implies that a number of different individuals, institutions and organizations, seeking to preserve their own self-interests, attempt to operate within the system through various relationships with others” (Williams 1999:211).

The theory implies that economic actors have the right to pursue their own interests, while according to Bourgeois political theory such a right is regulated or moderated by the external environment in which all economic actors operate (Clark, 1991; Gray et al., 1996).

Ramanathan (1976) adopted the Bourgeois political economy perspective *“in deriving the concept of a social contract, suggesting that the existence of an organization relies on the support of society in general” (Ramanathan, 1967 cited by Williams, 1999:211).*

If society detects that a company is involved in undesirable social activities then it is likely that society will break the social contract with the company, what will lead to the company’s demise.

In order to escape this situation and maintain the positive image in the external environment the company *“may release information related to their environmental and social activities maintain their position in society, it is conjectured that management may release information related to their environmental and social activities” (Williams, 1999:211).* Guthrie and Parker (1990) also elaborate on the political theory implications, arguing that the Bourgeois political economy offers qualitative and comprehensive insight into SER practices.

According to Guthrie and Parker (1990) *“the political economy perspective perceives accounting reports as social, political and economic documents. They serve as a tool for constructing, sustaining and legitimizing economic and political arrangements, institutions and ideological themes which contribute to the corporation’s private interests. Disclosure has the capacity to transmit social, political and economic meanings for a pluralistic set of report recipients” (Guthrie and Parker, 1990:166).*

According to Williams (1999) companies within the Bourgeois political economy framework may disclose social and environmental information for two purposes. First, *“management may make environmental and social disclosures to protect their self-interests in order to foster, sustain and legitimize relationships by presenting an image of supporting society in general” (Williams, 1999: 211-212).* Second, management may release social and environmental information related to their practices in details in order to escape the possibility of regulatory

intervention (Williams, 1999). Generally, Williams (1999) argues that companies basing on the principles of the Bourgeois political economy provide social and environmental information in response to the pressures of the social, political and economic milieu that surrounds them.

3.2.2.2. Legitimacy theory

Legitimacy can be defined as *“a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions”* (Suchman, 1995: 574).

Patten (2002) argues that *“while the economic legitimacy of corporations is monitored through the marketplace, social legitimacy is monitored through the public policy process”* (Patten 2002: 767). If a one company suspects that its social legitimacy is threatened or might be threatened in the future it has an intensive stimulus to maintain or improve its perception by society by participating in the policy process.

According to Patten (2002) one of the methods of doing so is SER (Patten, 2002). Corporate social disclosure is seen by many authors to be motivated by the corporate need to legitimize activities (Hogner, 1982, Patten, 1992; Deegan and Rankin, 1996, Wilmshurst and Frost, 1999, Patten, 2002).

With regard to a growth in community awareness and concern, legitimacy theory implies that firms take measures to ensure that their activities and performance are acceptable to the community. *“The annual report may therefore be used to reinforce the community's perception of management's responsiveness to specific environmental issues, or alternatively to divert attention from adverse environmental situations”* (Patten, 1992; Deegan and Rankin, 1996 cited by Wilmshurst and Frost, 1999; 11-12).

Deegan (2007) also consider corporate social reporting to be one of the tools by which companies may satisfy and manipulate the requirement to abide the terms of social contact.

The legitimacy theory of social disclosure suggests that the extent of environmental disclosure is *“a function of exposure to public pressure in the social/political environment”* (Cho and Patten, 2007: 639-640).

Legitimacy theory implies that *“companies facing greater exposure, as firms with poorer environmental performance are assumed to do, would be expected to provide more extensive off-setting or positive environmental disclosures in an attempt to address the increased threats to*

their legitimacy. As such, a negative association between a firm’s environmental performance and its environmental disclosure is posited to exist” (Cho and Patten, 2007: 640).

Deegan (2007) regards the situation, where a lack of correspondence between how society believes a company should act and how it is perceived that the company has acted, as legitimacy gap (Deegan, 2007 cited by Unerman et al., 2010: 127-149).

Among the main sources of legitimacy gap Deegan (2007) names the following: (1) *“societal expectation might change, and this lead to a gap arising even through the organization is operating in the same manner as it always had; (2) When previously unknown information becomes known about organization-perhaps through disclosure being made within the news media” (Deegan, 2007 cited by Unerman et al., 2010: 127-149).*

Companies seeks to improve their performance in the area of health and safety for controlling the legitimacy gap (Deegan, 2007 cited by Unerman et al., 2010: 127-149).

Lindblom (1994) suggests that companies may use disclosure as a legitimizing tool to (1) educate and inform relevant publics about changes in the companies’ performance, (2) amend perceptions about the performance of these companies, (3) deflect attention from their actual performance (Lindblom,1994).

Deegan (2007) also suggests a range of the strategies actions companies adopt to tackle the legitimacy gap: forecasting future changes and protecting past accomplishments. One company can *“(1) seek to educate and inform its ‘relevant publics’ about actual changes in the organization performance; (2) seek to change or manipulate the perceptions that ‘relevant publics’ have, but not change organizational behavior. (3) Seek to change external expectations of its performance, possibly by demonstrating that social expectations are unreasonable” (Deegan, 2007 cited by Unerman et al., 2010: 127-149).*

3.2.2.3. Stakeholder theory

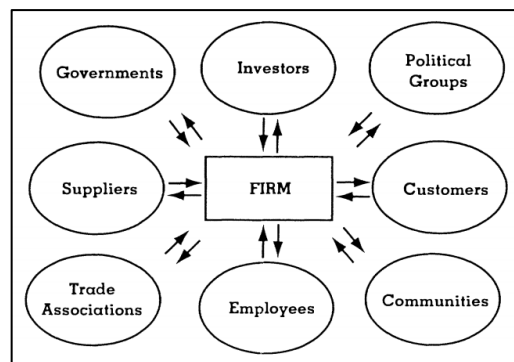
Stakeholder theory is one of the most popular theories that seek to explain companies’ motives for providing SER.

The term “stakeholder” was first mentioned in the 1960s, the theoretical concept was developed by Edward Freeman in 1980s (Crane and Matten, 2010). The main stating point of the theory is *“that corporations are not simply managed in the interests of their shareholders alone, but that there is a whole range of groups, or stakeholders, that have a legitimate interest in the*

corporation as well” (Crane and Matten, 2010: 61). There is a whole range of definition of the notion “stakeholder”, proposed by many authors, but we use the definition given by the forefather of stakeholder theory Edward Freeman: “a group or individual who can affect, or is affected by, the achievement of the organization’s objectives” (Freeman, 1984:46 cited by Crane and Matten, 2010: 61).

Providing more clarity, Clarkson (1995) recognizes ‘primary’ and ‘secondary’ stakeholders. A primary or participant stakeholder, (Metcalf, 1998), is one without whose participation a company cannot survive as a going concern. Secondary or non-participant stakeholders, (Metcalf, 1998), are defined “as those who influence or affect, or are influenced or affected by the corporation, but they are not engaged in transactions with the corporation and are not essential for its survival” (Sweeney and Coughlan, 2008:114).

The stakeholder model of a company developed by Donaldson and Preston (1995) is presented on the figure 3.2.1 below (Donaldson and Preston, 1995: 68).



Source: Donaldson and Preston, (1995: 68).

Figure 3.2.1 The stakeholder model of a company

According to Clarkson (1995) “the corporation itself can be defined as a system of primary stakeholder groups, a complex set of relationships between and among interest groups with different rights, objectives, expectations, and responsibilities” (Clarkson, 1995: 106-107).

The survival of a company and successfulness of its operations depend upon its management ability to create value or satisfaction for its stakeholders (Clarkson, 1995). “Failure to retain the participation of a primary stakeholder group will result in the failure of that corporate system” (Clarkson, 1995: 106-107).

According to Clarkson (1995) *“if any primary stakeholder group, such as customers or suppliers, becomes dissatisfied and withdraws from the corporate system, in whole or in part, the corporation will be seriously damaged or unable to continue as a going concern”* (Clarkson, 1995: 106).

According to Donaldson and Preston (1995) stakeholder theory can be subdivided to an ethical (or normative) branch devoted to impelling managers to acknowledge the importance of diverse stakeholder interests and to accept a moral requirement to respond to those interests (Donaldson and Preston, 1995). There is also a managerial (or positive) branch of stakeholder theory. This emphasizes *“the need to manage stakeholder groups, particularly those capable of controlling resources required by a company”* (Donaldson and Preston, 1995 cited by Oliveira et al., 2013:75).

Stakeholder theory provides reasons why other groups also have a legitimate claim on a company. Freeman (1984) argues that one company is related to wide range of contracts and, for this reason, cannot be in a particular interest of only one stakeholder group – shareholders (according to Milton Friedman). From a legal perspective, *“there are far more groups apart from shareholders that appear to hold legitimate stake in the corporation since their interests are already protected in some way”* (Crane and Matten, 2010: 63). Therefore, companies are not only bound to their contractors like suppliers and employees, but also to a network of laws and regulations posed on them by society (Crane and Matten, 2010).

Therefore, as upon other socio-political theories, environmental and social accounting disclosures within the framework of stakeholder theory are seen *“as a mechanism that organizations utilize in order to enhance their status, provide information to stakeholders and discharge the social contract between the entity and the relevant public”* (Gray et al., 1988 cited by Williams, 1999:210).

“If managers can maintain good relations with stakeholders by improving the level and quality of disclosures to stakeholders, this will help them to generate a valuable reputation” (Branco and Rodrigues, 2006 cited by Oliveira et al., 2013:75).

According to Donaldson and Preston (1995) stakeholder theory can be instrumental, descriptive or normative. Normative stakeholder theory attempts to explain why companies should take into account stakeholder interest; descriptive stakeholder theory attempts to investigate how companies actually do to incorporate their stakeholder interests and instrumental stakeholder

theory attempts to answer the question of whether it is profitable for companies to incorporate stakeholder interests (Crane and Matten, 2010: 66).

3.3. How SER functions in relation to corporate performance from the theoretical perspectives

The theoretical frameworks depicted above elaborate on the reasons for SER as well as provide the insight to motives for socially and environmentally responsible performance. This paragraph is designed to summarize all the main propositions of chosen theories and consider how SER functions towards companies’ performance.

Solomon (2005) argued that SER is motivated more by its connection with financial goals, “through reputation enhancement”, than by a truthful desire to improve social justice (Solomon, 2005:3). SER is used and created in order to “comply with regulations, reduce costs and improve brand image, marketing, competitive advantage, and a sense of social responsibility” (Tschopp, 2012). In general the main reasons for publishing SER is to “rebuild trust and reduce anxiety” at a societal level (Lupton, 1999).

Nevertheless, there are some differences of voluntary reporting of SER from the different theoretical lenses. That is why we would like to sum up information presented at the above paragraphs and make the structured understanding of these differences (see Table 3.3.1). The following theoretical framework is appropriate for explaining and adopting our empirical results.

Table 3.3.1 Theoretical framework: how SER functions in relation to corporate performance

Theory	Main propositions	What corporate actions are implied within a theory
Voluntary Disclosure theory		
Positive association between one company’s environmental performance and the adequacy of environmental disclosure produced by the company (Dye, 1985; Verrecchia, 1983)		
<i>Voluntary disclosure theory</i>	Superior environmental performer needs to convey its type in order to stand out of inferior performers	To build and to maintain trust (through the language of reputations)
Socio-political theories		
Negative association between one company’s environmental performance and the adequacy of environmental disclosure produced by the company (Patten, 2002)		

<p><i>Stakeholder theory</i></p>	<p>The survival of a company and successfulness of its operations depend upon its management ability to create value or satisfaction for its stakeholders (Clarkson, 1995)</p>	<ul style="list-style-type: none"> • To inform stakeholders; • To provide useful information to stakeholders; • To manage public opinion and appease shareholders; • To encourage and develop a genuine dialogue with their stakeholders; • To create dialogue with their stakeholders .
<p><i>Political economy</i></p>	<p>Economic issues cannot be evaluated without considering the political and social context in which they are placed;</p> <p>Political economy derives from conflicting political, social and economic motivations within society (Gray, Owen and Adams, 1996). The core of political economy is the social contract.</p>	<ul style="list-style-type: none"> • To comply with regulations • To satisfy socio-political concerns.
<p><i>Legitimacy theory</i></p>	<p>If a one company suspects that its social legitimacy is threatened or might be threatened in the future it has an intensive stimulus to maintain or improve its perception by society by participating in the policy process. One of the methods of participating with society is social and environmental reporting (Patten, 2002);</p> <p>Legitimacy theory arises from the concept of a social contract being established between companies and society (Mathews, 1993).</p>	<ul style="list-style-type: none"> • To attempt to legitimize their actions to society; • To redefine company’ role in society and to maintain public confidence in the legitimacy of their operations in order to maintain their ‘license to operate’(ICAEW, 2004: 31); • To reduce societal anxiety about corporate impacts on the environment and society.

Based on the foregoing table we can conclude that SER can function within theories determining the motives for companies’ environmental policy in various ways. Some companies use their reports to enhance their reputation or to satisfy stakeholder. Others companies report SER in order to are required to maintain their “license to operate” (ICAEW, 2004: 31). Each company has own motives and interests for SER.

The understanding of motives or reasons for SER and what particular actions should be taken by a company in keeping step with the emerging environmental regimes is useful in understanding the relations between what companies “talk” about their environmental policies and how they actually “walk” this way. Later on our Master Thesis includes the comparative analysis of how companies portray themselves in environmental policy and how they perform towards it. The theoretical framework is helpful in understanding and interpreting empirical findings of our study.

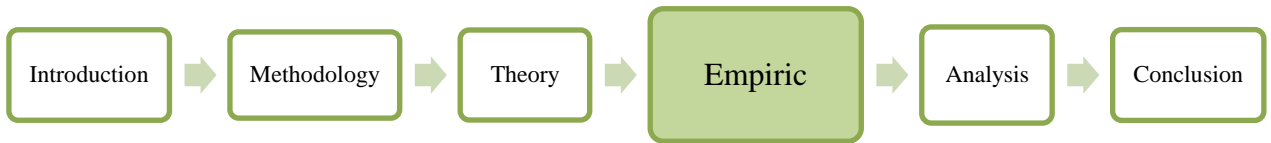
3.4. Summary

The objective of this Chapter was to provide theoretical background for our further empirical and analytical parts of companies' CC governance and performance evaluation. The theoretical framework constitutes the basis for our study and support the reasoning on the problem statement.

Firstly, in this Chapter the business responses to climate change were depicted and explained briefly. Secondly, two competing predictions from the two alternative theories were described and explained. We made brief discussion of the theories and provided an overview over what different theories say about relation between disclosures and performance.

Finally, we summarized how SER functions in relation to performance from perspective of each theory.

IV. EMPIRIC



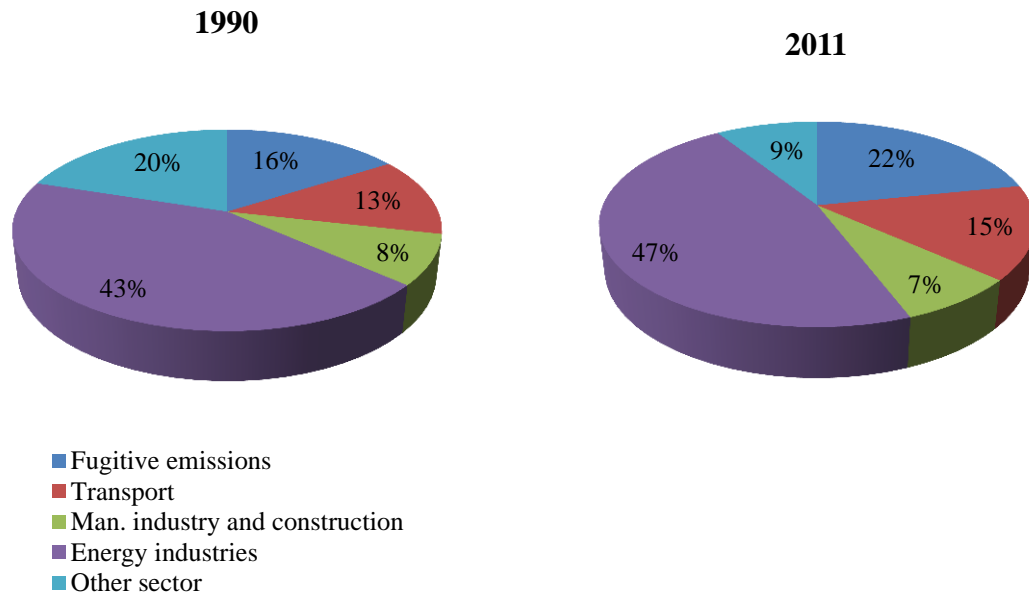
The Chapter presents the empirical data collected for accomplishing CC governance and CC performance evaluation for each of the studied companies. Particularly, the Chapter is organized as the presentation of the data, which was obtained through quantitative analyses of absolute GHG emissions, the carbon intensity of operations and resource mobilization and context analysis of companies' mass media profiles and CC governance. The Chapter is structured as follows: first, we present a short overview of the Russian oil & gas industry that determines the context in which our study is held, then we present the empirical data collected for CC governance and CC performance evaluation. For simplifying the presentation of information the CC performance evaluation is subdivided to separate paragraphs with accordance to all three methods of CC performance evaluation involved in our study.

4.1. Russian oil & gas industry

The world oil & gas output production amounted to 3.8 billion tons and 3,276 billion of cubic meters respectively in 2012. Particularly, the major oil production and net proved reserves are in possession of five countries: The Russian Federation, Saudi Arabia, the USA, China and Canada. The leading positions in terms of oil production “are occupied by Russia (518 mln tons) and Saudi Arabia (495,8 mln tons)” (SNG annual report, 2012:4).

The world natural gas production in 2012 was equal to more than 3, 3 trillion cubic meters. Among the largest producers of the natural gas are the United States of America, the Russian Federation, Iran, Qatar and Canada. Now, Russia is the unquestioning world leader by the proven gas reserves having in its disposal almost a quarter of the world gas reserves.

Undoubtedly, Russia plays the significant role in the world oil & gas market. Therefore, Russia is considered one of the major participants in the world climate change mitigation policy and the country that is capable to affect the climate significantly given that “oil, natural gas and coal—the main sources of emissions of greenhouse gases” (Skjærseth and Skodvin, 2001:44). The Figure 4.1.1 presented below testifies in favor of the growing role of the energy industries in making contribution to the world greenhouse gas (GHG) emissions releases.



Source: United Nations, Climate Change Secretariat, Summary of GHG Emissions for Russian Federation, 2011

Figure 4.1.1 Breakdown of GHG emissions within the energy sector, 1990, 2011

The prosperity of the Russian oil & gas industry appears to be a critical issue to the Russian climate policy and environmental regime.

As far as the Russian oil & gas industry is in the possession of Russian oil & gas majors, the industry’s response to climate change is largely managed by oil & gas companies themselves. Therefore, the Russian oil & gas industry’s response to CC should be evaluated from the position of how Russian oil & gas business individually or collectively manages the CC issues.

The Russian oil & gas sector is a dominant force in the business community with its ten largest oil & gas companies all ranking within the top 100 largest corporations in Russia by capitalization (see Table 4.1.1 below).

Table 4.1.1 The ranking of the Russian top 10 oil & gas companies by capitalization amongst top 100 largest publicly traded Russian corporations, 2012

Top 10 Russian oil & gas companies by Size (Assets)	Rank in Top 100 largest Russian companies by capitalization*
Gazprom	1
Lukoil	2
Rosneft	3
Novatek	6

Surgutneftegaz	7
TNK-BP	8
Gazpromneft	9
Tatneft	14
Bashneft	19
Eurasia Drilling Company Limited	34

Note: *Ranked by RIA, 2012

The rank presented above was arranged by RIA, and consists of the top 100 largest Russian companies by capitalization. There are a wide variety of Russian oil & gas companies of different sizes and status; they differ in their size (revenues, capitalization, net profit, number of employees), types of vertical integration (from upstream to downstream), areas of operations, social and environmental position. Undoubtedly, each of these companies appeared to be responsible to CC one way or another.

According to Skjærseth and Skodvin (2001), the differences between oil & gas business responses can be explained in two alternative ways: the first is derived from company’s specific features, while the second approach focuses on the differences in the political context.

Since 2004, the Kyoto Protocol has been ratified by Russia³ the Russian oil & gas companies have existed in the same political context. Entering upon the Kyoto Protocol member, Russia set an ambitious goal to reduce its own greenhouse gas (GHG) emissions. Consequently, since that time Russian oil & gas companies have been operating within the framework of GHG reduction policies. In fact, Russian oil & gas companies act in the same political area what gave us a ground to focus only on the company’s environmental policy features not on external factors in the process of understanding and evaluating the companies’ climate policies.

In order to make a proper and effective sample of companies studied, we addressed the other prestigious rank that was constructed by the Global Fortune and depicted the top 500 of largest oil & gas companies by revenue. With regard to limitation posed on time of conducting our study and limitations to the volume of the completed paper it was decided to bound the sample of the companies to the four largest ones with accord to the rankings presented above and below in this paragraph: Gazprom, Lukoil, Rosneft, Surgutneftegaz (SNG).

³ Russia refused to participate in the second phase of the Kyoto Protocol started from the January, 2013.

Table 4.1.2 Ranks of Russian oil & gas companies

Top 10 Russian oil & gas companies by Size (Assets)	Rank in Top 500 of largest oil & gas companies by revenue
Gazprom	9
Lukoil	18
Rosneft	27
Surgutneftegaz	60

Note: The Fortune Global 500, 2012

Other Russian oil & gas companies were cast away as they were on the lower ranking positions. Therefore, we continued with only four companies in attempt to compare companies with the same opportunities, challenges and risks pertaining to the responses to climate change.

Firstly, we would like to present economic profiles of Russian oil & gas companies to ensure that the ground for analysis is identical or analogous within the context of the Russian oil & gas industry. The chosen criteria are based on the FORBES ranking included the main financial data and key performance indicators: revenue, net profit, assets, and employees. For the purpose of comparison, information was collected from the four companies’ annual and financial reports.

Table 4.1.3 The profiles of the Russian oil & gas companies

Company	Revenues (mln \$)	Net profit (mln \$)	Assets (mln \$)	Employees (thousand)
Gazprom	117,6	31,7	302,6	431
Lukoil	111,4	10,4	90,6	150
Rosneft	59,2	11,3	106	165
Surgutneftegaz	20,3	4,3	46,6	117

Source: All data taken from company’s annual and financial Reports, 2012

Secondly, we would like to figure out the key parameters of companies’ activities that influence their responses to climate change. As Skjærseth and Skodvin (2003:75) assumes that “*the more carbon intensive the fossil fuel portfolio of the company, the high is their risk of being subjective to stringent regulation, and the more likely they are to resist such policies and adopt a reactive strategy*”. Hence, in order to analyze Russian oil & gas companies and their responses to climate change, there is a need to evaluate each company’s carbon intensity by presenting the oil

& gas reserves and company’s oil & gas production. As such, the required data was collected from individual companies’ annual and sustainability reports (2012) and presented below (see Table 4.1.4).

Table 4.1.4 Net proved oil & gas reserves of the Russian oil & gas companies as a percentage of the Russian total reserves

Company	Net proved gas reserves (mln barrel of oil equivalent)	Net proved Oil & gas condensate reserves (mln barrels)	Net proved reserves (mln barrel of oil equivalent)	Share of the proved reserved possessed by a company in a total amount of net proved reserves (%), 2011	Share of proved oil & gas condensate reserves in the total volume of each company’s net proved reserves (%), 2011
Gazprom	188103,7	9878,6	197982,3	56,5	4,9
Rosneft	3332,4	14286	17618,4	5,0	81,0
Lukoil	28818,1	12789	41607,1	11,9	30,7
Surgutneftegaz	-	-	2500	0,7	-
Russia	262500,7	88200	350700,7	100	-
World	1226638,9	1653000	2879638,9	-	-

Note: All data taken from individual company’s Annual and Sustainability Reports, 2011

Table 4.1.4 presented above comprises the information about potential “*carbon intensity*” (Woynillowicz, 2001: 32) of resources than is believed to influence the reactivity or proactiveness of companies’ policies towards climate change mitigation. The current oil & gas production of the Russian oil & gas companies as a percentage of Russian total oil & gas production is presented in the Table below.

Table 4.1.5 The current oil & gas production of the Russian oil & gas companies as a percentage of Russian total oil & gas production

Company	Gas production, (mln barrel of oil equivalent)	Oil & gas condensate production, (mln barrels)	Oil & gas Production, (mln barrel of oil equivalent)	Share of total company’s oil & gas production in total Russian oil & gas production, 2011	Share of company’s oil production in total company’s oil and gas production, 2011
Gazprom	2732,7	236,78	2969,5	40,1	7,9
Rosneft	75,9	918,1	993,9	13,4	30,9
Lukoil	92,9	635,4	728,3	9,8	21,4
Surgutneftegaz	75,9	445,5	521,4	7,0	15,0
Russia	3572,2	3825,3	7397,5	100	-
World	19279,3	30959	50238,3	-	-

Note: All data taken from individual company’s Annual and Sustainability Reports, 2011

For the purpose to identify more “carbon intensive” and the less “carbon intensive” company (Woynillowicz, 2001: 32) net proved reserves and net proved oil & gas condensate reserves were leveled to the same measurement units of mln barrel of oil equivalent. More detailed calculations are included in the Appendix B. Further, the information about current production was collected as shown in the Table 4.1.5. Based on the both Tables it is possible to derive a conclusion about the types of the companies’ responses to CC, reasoning from companies’ net proved reserves and current production.

With accordance to Skjærseth and Skodvin (2003) the carbon intensity affects the company’s response to CC significantly. That is why companies with relatively low carbon intensity have more proactive strategies. Hence, the more a company has reserves and produces oil & gas, the more carbon intensity it generates. In our case, we build the general ranking including four main indicators presented at the 3rd and 4th columns in the Table 4.1.4 and Table 4.1.5 above. If company has the highest percentage value, the 10th grade is prescribed. Conversely, if company has the lowest percentage value, the 7th grade is given. Based on foregoing, we can construct our ranking with regard to more and less carbon intensive companies.

Table 4.1.6 The distribution of the Russian oil & gas majors from the perspective of the carbon intensity, 2011

Company	Table 1		Table 2		Grade	<i>Rank</i>
	Column 3	Column 4	Column 3	Column 4		
Gazprom	10	8	10	8	36	2
Rosneft	8	10	9	10	37	1
Lukoil	9	9	8	9	35	3
Surgutneftegaz	7	7	7	7	28	4

Note: The table presents the overall ranking of the companies from the perspective of the carbon intensity of their operations; all the places are derived with accordance to the Table 4.1.4. and Table 4.1.5. above.

Following this logic, we can assume that SNG, as the company having the lowest oil & gas reserves in comparison with other companies in Russia, might adopt more proactive strategies. On the contrary, Gazprom and Lukoil have the biggest amount of net proved reserves equal to 198 166 (mln barrels oil equivalent) and 41603, 8432 (mln barrels oil equivalent) respectively. Specifically, Gazprom and Lukoil, holding the tremendous amount of oil & gas, can be assumed to be the companies with less proactive strategies. In order to get better understanding of the companies’ responses to CC and their position in comparison with other Russian oil & gas

companies, further in this Chapter we provide the overview of each company’s environmental policy and present the empirical data pertaining to the climate change governance and performance for each company under the sample individually.

4.1.1. Getting to know Russian oil & gas companies

GAZPROM

Gazprom is one of the largest corporations among Russian oil & gas companies. Its major business directions are geological exploration, production, transportation, storage, processing and sales of gas, gas condensate and oil, sales of gas as a vehicle fuel as well as generation and marketing of heat and electric power⁴. In addition, Gazprom has the control over the world’s largest natural gas reserves. For example, in 2010–2011, Gazprom total natural gas production reached 1,021.8 billion cubic meters (508.6 billion cubic meters in 2010, and 513.2 billion cubic meters in 2011). In 2015 Gazprom peruses to exceed the pre-crisis gas output.

Gazprom approach to the sustainability, in particular regarding to environmental issues, is based on the following criteria:

- *“evaluating the effectiveness of environmental protection measures;*
- *organizing comprehensive environmental protection management, energy conservation and energy efficiency;*
- *coordinating interaction with governmental environmental protection agencies and public organizations”.*⁵

Gazprom sets targets to minimize specific negative environmental impacts from their activities. To do so, Gazprom seeks to maintain the standards, for instance, in 2011 Gazprom Environmental Management System (EMS) was certified in accordance with the ISO 14001:2004 international standard. The system is built as a vertically integrated structure that covers all management levels – from Gazprom administration to administrations of subsidiaries and associated companies and organizations to branches and industrial facilities (Gazprom Sustainability report, 2010-2011).

With regard to the climate change issues, the company’s environmental policy recognizes the importance of the climate change problem and undertakes to make best efforts to preserve climate conditions. Gazprom considers business, legal, physical, infrastructure and social risks

⁴ <http://www.gazprom.ru/>

⁵ <http://www.gazprom.ru/>

that arise from possible consequences of climate change (Gazprom Sustainability report, 2010-2011).

In recent years, within the framework of the Kyoto Protocol, Gazprom and a number of group companies, including Gazprom Neft and Mosenergo, launched joint projects designed to reduce greenhouse gas emissions through beneficial utilization of associated gas and increasing energy efficiency. Nevertheless, Gazprom does not point out an emissions baseline by which to gauge future GNG emissions trends.

LUKOIL

Lukoil is one of the largest international oil & gas holdings in the world, which includes over 300 companies in 35 countries across the globe. The company manages the exploration and production of oil & gas, refining petroleum products, the production of petrochemicals, power generation, and the marketing of the products produced. Lukoil stands on the 6th place among largest non-state publicly traded oil company worldwide by production of hydrocarbons (Lukoil Sustainability report, 2007-2008: 5). Lukoil is accounted for 2, 1% of global oil production and 16, 3% of Russian oil production.

The company is known as a leader among Russian oil companies for openness and transparency. *“We observe all the statutory requirements for mandatory disclosure and follow the principle of reasonable openness and transparency in respect to voluntary reporting”*⁶. Lukoil has been publishing its annual reports since 1999 and stand-alone sustainability reports from 2005.

*“The Company is one of the leaders in the oil & gas industry by disclosure of sustainable development information – that can be assumed from the independent survey conducted by KLD Research & Analytics, Inc. and the Sustainable Investment Research Analyst Network, (SIRAN) in seven countries (Brazil, China, India, Russia, South Africa, South Korea, and Taiwan)”*⁷.

Lukoil declares commitment to the principles of sustainable development and formulates its strategic objective as *“to ensure dynamic sustainable development corresponding to that of global oil majors in terms of their efficiency and competitiveness”*⁸.

⁶ <http://www.lukoil.com/>

⁷ <http://www.lukoil.com/>

⁸ <http://www.lukoil.com/>

“According to the triple-bottom approach, the sustainable development concept, we believe that our priorities are increasing competitiveness in all the Company’s business segments, creating and maintaining the preconditions for efficient development and the use of human capital, as well as socially and environmentally responsible activities in the regions of our presence. The Company has been following the line of achieving a balance between the environment and the economy, as well as social stability” (Lukoil Sustainability report, 2007-2008:11).

Lukoil is the first Russian company which developed and uses the “zero discharge” technology on the shelf which involves collection of all industrial and domestic waste and its transportation onshore for subsequent disposal and adopted an Health, Safety and Environment (HSE) policy (Lukoil Sustainability report, 2009-2010: 52).

The company’s HSE policy current objectives are to increase petroleum gas utilization rate through expansion of gas-processing and power-producing capacities, apply the zero-discharge principle while developing offshore fields, increase the output of environmentally friendly fuels compliant with the European standards, comply with greenhouse gas reduction provisions of the Kyoto Protocol, bring under control and gradually reduce both the amount and toxicity of emissions, discharges of pollutants and waste, reduce anthropogenic environmental load resulting from operation of newly commissioned facilities by ensuring better quality of front end and design documents and others⁹.

Lukoil undertakes obligations to perform more efficient production control and supervision and internal auditing to ensure compliance with the HSE regulations at Lukoil sites based on cutting-edge information technologies, technical diagnostics and remote monitoring techniques in line with ISO 14001, ISO 17020 and OHSAS 18001 international standards.

Lukoil acknowledges its responsibility to society for rational use of natural resources and preservation of the environment, the environmental protection tasks inseparable part of the Lukoil Development strategy. Environmental guidelines included into strategy are as follows:

- *“Achievement of 95% utilization of associated petroleum gas;*
- *Ending discharge of effluent into natural water bodies;*
- *Reducing greenhouse gas emissions and obtaining additional income through implementation of the mechanisms of Article 6 of the Kyoto Protocol;*
- *Fully overcoming the aftermath of previous environmental damage;*

⁹ <http://www.lukoil.com/>

- *Obtaining a ratio no higher than 1x between waste accumulation and use/recycling of waste;*
- *Reduction of pipeline failures and purification of land that has been damaged as a result of such failures”¹⁰*

During the year 2012 the company allocated over USD 700 mln for environmental safety measures. During 2012 Lukoil achieved the reduction of atmosphere pollutants by nearly 14%, the area of polluted land by 17%, the number of incidents that caused damage by 12.5%.

SURGUTNEFTEGAS

Surgutneftgas can be characterized as one the Russian oil & gas majors involved in oil & gas production and exploration, gas processing, power generation, output and marketing of petroleum products, petrochemicals and gas products (SNG environmental report, 2012). According to the annual report 2012, SNG develops its business in the Russian Federation operating from the Baltic Sea to Far East, “*in the hydrocarbon prospecting and production segment the Company is active in three largest Russian oil & gas provinces: Western Siberia, Eastern Siberia and TimanoPechora*”¹¹. In addition to the main activity, SNG pays attention to technological innovation in order to improving quality and environmental safety of their actions.

The main areas of SNG environmental activities are:

- *“construction, reconstruction and upgrading of the existing environmental facilities;*
- *protection and rehabilitation of land, air and water resources;*
- *monitoring of natural environment components and production facilities;*
- *pipeline accident prevention and cleanup operations;*
- *decontamination of production residuals;*
- *R&D activities and environmental training programs”* (SNG environmental report, 2011: 2).

Altogether SNG talks about general measures in term of sustainability, but it is complicated to find out something about real actions and functional environmental programs on the company’s official web-site. Very little information about the Surgutneftgas environmental practices is published. Most of available environmental information presented in the environmental and ecological reports. SNG does not clearly articulate and discuss climate change and its contribution to solving the problem.

¹⁰ <http://www.lukoil.com/>

¹¹ <http://www.surgutneftgas.ru/>

The most appropriate statement on climate change is contained within the company’s environmental reports 2005-2012 under the headline “Air Protection”. In this part Surgutneftegas notes more about atmosphere protection than climate change: *“the company makes significant efforts to preserve atmosphere for future generation by way of effective system-based utilization of associated petroleum gas (APG) and gradual reduction of air emission”* (SNG environmental report, 2011: 15).

With regards to making and establishing targets for GHG emission reductions, Surgutneftegas *“due to a resource-saving approach to APG utilization Surgutneftegas shows the best results with respect to associated petroleum gas utilization and gradually reduces the amount of air pollutants”*¹². For instance, in 2012 Surgutneftegaz achieved *“lower air polluting emissions by more than 2,760,000 tons, including 225,000 tons of greenhouse gas methane a year (which amounted to 4,610,000 tons a year in CO₂ equivalent)”*. Surgutneftegaz has not provided any further information on its GHG emission reduction.

However, the results of environmental monitoring show that the environmental situation on the territories where Surgutneftegas operates can be evaluated as satisfactory. *“The impact of the Company’s production facilities is described as acceptable, and it properly maintains the quality of the environment”* (Surgutneftegas environmental report, 2011:25).

Further to the above, according to the ranking of Russian companies’ associated petroleum gas (APG) utilization, for a few years now, SNG has been the industry leader. By the results of 2012 SNG became the winner in the competition of 100 best companies of Russia “Ecology and ecological management”. Considering the rewards earned by the company we can imply that, in spite of poor data related to climate change, SNG gains the reputation of an environmental responsible Russian oil & gas company.

ROSNEFT

Rosneft completes the circle of the biggest Russian oil & gas companies. According to the Company’s sustainability report Rosneft is the leader of the Russian oil industry and one of the world’s largest publicly traded oil & gas companies. Rosneft is primarily engaged in *“the exploration and production of hydrocarbons, production of petroleum products and petrochemicals, and marketing of outputs”* (Rosneft sustainability report, 2010:15). The largest shareholder of Rosneft is the Russian state, which owns slightly more than 75% of the stock

¹² <http://www.surgutneftegas.ru/>

(Rosneft sustainability report, 2008). This fact is important for the analysis due to the fact that most companies connect the improvement of environmental policy with the governmental regulation. In accordance with that, we can assume the high level of Rosneft climate change responsibility due to the total governmental control.

Strategic priorities present the company’ main values and Rosneft strategic direction was considered and shown below:

- *“increasing shareholder value;*
- *strategic planning based on reasonable assumptions;*
- *efficient growth of production levels;*
- *development of downstream capacities in accordance with market demands;*
- *efficient use of feedstock and producing high-quality outputs;*
- *development of the corporate risk management system”* (Rosneft sustainability report, 2010: 16).

Based on the foregoing list it is possible to infer that Rosneft does not clearly articulate its climate change policy and its involvement to the issue. In general, if one look through the company’s sustainability reports carefully, a bit data about the company’ climate change mitigation measures and policies will be found. Rosneft does not discuss climate change and does not clearly articulate its contribution to solving the problem.

4.2. Evaluating climate change governance and performance

In order to solve the problem that underlies our study we are to define and assess how Russian oil & gas companies portray themselves and how they actually perform from the perspective of CC mitigation policy and designate the relations existing within these portrayal/performance concepts.

The relation between climate strategy formulation and implementation is important in revealing what oil & gas companies actually do to mitigate the negative impacts of their operations in relation to climate change (Sæverud and Skjærseth, 2007). According to Cogan (2006) effective corporate responses to climate change must be built on well-functioning environmental management systems and properly focused governance practices (Cogan, 2006).

Each of the four chosen Russian oil & gas companies was evaluated on both its climate change governance and performance. The motive for looking at both governance and performance comes from a desire to better comprehend and articulate the relationships exist between the companies’ “talk” (a company’s strategy towards CC mitigation, policies and programs to

address the climate change) and “walk” (management of GHG emissions) (Woynillowicz, 2006: 47).

4.2.1. Evaluation of climate change governance

As stated above the evaluation of each company’s climate change governance was conducted utilizing the *Climate Change Governance Checklist* designed by CERES, a national coalition of investors, environmental groups and other public interest organizations working with companies to address sustainability challenges such as global climate change (Cogan, 2006: 1).

The publication (report) of CERES “*Corporate Governance and Climate Change: Making the Connection*” is considered the first measurement of how 100 leading global companies are preparing and positioning themselves to face climate change challenges. “*It employs a “Climate Change Governance Checklist” to evaluate how 76 U.S. companies and 24 non-U.S. companies are addressing climate change through board oversight, management execution, public disclosure, emissions accounting and strategic planning*” (Cogan, 2006: 3). The CERES publication is used as a benchmark by institutional investors and corporations that are ready to keep step with the emerging climate trends. The information for the publication is being gathered from securities filings, company reports, company websites and third-party questionnaires.

For the purpose of our study the companies were evaluated on the basis of their most recent governance practices. For example, if company undertakes a certain governance practice only in the last year studied but have not undertaken a certain governance action in the past, it will receive a check mark. If one of the four Russian oil & gas companies clearly articulates or at least mentions its position or actions on the governance practices proposed by CERES, the check mark is also decided to be awarded.

Table 4.2.1 presents the results of the climate change governance analysis made on the basis of the *Climate Change Governance Checklist* designed by CERES and Appendix A documents the sources of information supporting the checklist results for each company.

Table 4.2.1 Results of Climate Change Governance Analysis

Governance Category	Governance Action	Gazprom	Lukoil	Rosneft	Surgutneftegas
Board Oversight	Board committee has explicit oversight responsibility for environmental affairs.	*	*	*	*

	Board conducts periodic review of climate change and monitors progress in implementing strategies.	*	*	*	
	Chairman/CEO clearly articulates company’s views on climate change and GHG control measures.	*	*		*
Management Execution	Executive officers are in key positions to monitor climate change and coordinate response strategies.	*	*	*	*
	Executive officers’ compensation is linked to attainment of environmental goals and GHG targets.			*	
Public Disclosure	Securities filings identify material risks	*		*	
	Sustainability report offers comprehensive, transparent presentation of company response measures		*		
	Company calculates and registers GHG emissions savings and offsets from projects.		*		
Emissions Accounting	Company conducts annual inventory of GHG emissions from operations and publicly reports results.	*	*	*	*
	Company has set an emissions baseline by which to gauge future GHG emissions trends.		*	*	
	Company has third party verification process for GHG emissions data.	*	*	*	
	Company sets absolute GHG emission reduction targets for facilities and products.	*	*		
Emissions Management & Strategic Opportunities	Company participates in GHG trading programs to gain experience and maximize credits.		*		
	Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks, and maximize opportunities from changing market forces and emerging controls.	*	*		*
TOTAL out of 14		9	12	8	5

Making sense to the empirical data obtained through the climate change governance evaluation one would need to comment the data presented in the Table 4.2.1 line by line. Below some reflections made on the evaluation of CC governance are presented. For simplifying the

presentation the comments are given in the order of governance categories listed in the Table 4.2.1. above.

Governance category: Board Oversight

All companies under consideration appeared to have clear articulation of who and how is responsible for environmental affairs. For instance, Gazprom assigns responsibility for environmental affairs to the authority of the Gazprom Board of Directors, while “*industrial and environmental safety in Rosneft is controlled by the core departments of environmental safety and technologies and industrial and labor safety. In 2012, these departments in consort with the Energy department have become subordinates of a single vice president*”.¹³

The *Governance Action: Board conducts periodic review of climate change and monitors progress in implementing strategies* is exercised almost by all companies studied. SNG distinguished itself by non-disclosing the climate change data annually, the company showed no permanency in monitoring its climate change mitigation progress. Opposite to SNG, the climate change review was presented by Lukoil, Rosneft, Gazprom. “*The designed reduction of emissions under the project is about 833 thousand tons of CO₂ equivalent over a period of 2008-2012*” (Lukoil Sustainability report, 2009-2010: 49), while Gazprom measures its progress with regard to the targets set: “*Compared to the year of 2010 the following targets were achieved: methane emissions reduction – 8 %; lowering of the payment for exceeding the allowed environmental impact – 34 %; nitrogen oxides emissions in gas transport per unit – unchanged*” (Gazprom environmental report, 2011: 10).

Governance category: Management execution

The first action included in the category is *Chairman/CEO clearly articulates company’s views on climate change and GHG control measures*. Three out of four companies received the checkmarks in this category, while Rosneft received no check marks. In all addresses of Igor Sechin, the former Chairman of the Rosneft Board of Directors and the current chairman of the board of directors of Rosneft, Alexander Nekipelov, throughout the studied period the prevailing attention was paid to financial performance and business success achieved by the company: “*In 2011, the Company’s key objective was to begin the transformation from a status of a national-level player working mainly with traditional oil fields and technologies to a status of a global leader in the energy resources sector*” (Rosneft Sustainability Report, 2011: 4). However,

¹³ <http://www.rosneft.com/Development/>

neither clear articulation nor even mentioning of the of CC issues by CEOs or Presidents of the company found.

At the same time Lukoil, SNG and Gazprom included quite a clear representation of their CEOs views on the climate change; from the Gazprom sustainability report, 2008-2009: *“Climate change is one the major challenges of our time, and global corporations, especially energy companies, must be, with all the opportunities they have, in the forefront of this battle. There is a direct correlation between sustainable growth of our Company and new ways of using natural resources and preserving the environment for future generations”*, - Alexey Miller, Chairman of Gazprom Management Committee (Gazprom sustainability report, 2008-2009: 66).

In relation to the governance action *Executive officers are in key positions to monitor climate change and coordinate response strategies* all companies received check marks. The information presented in the reports was set forth clearly, what made us believe that executive officers take part in monitoring climate change and coordinate response strategies. Gazprom exercised complex management of the environmental protection by setting up the Coordination Committee of Gazprom for environmental protection and energy efficiency: *“The Coordination Committee membership includes the majority of the OAO Gazprom Management Committee and heads of the Gazprom profile departments”* (Gazprom sustainability report, 2008-2009: 66).

Rosneft, in turn, listed all the environmental responsibilities which the President of the Company has been designated for, among them are: annual preparation and publication of sustainable development reports, development of the system for interaction with stakeholders, development of the uniform corporate automated data bank of sustainable development indicators. The interesting fact here that Rosneft top manager is accountable to the Board of Directors in terms of key performance indicators (KPI) that among the others include environmental and industrial safety.

Concerning the 5th governance action *Executive officers’ compensation is linked to attainment of environmental goals and GHG targets*, we observe that Rosneft shows positive tendency in comparison with other companies under the sample. From year to year Rosneft lets stakeholders see that KPI takes part in making decisions on remuneration of independent directors, here the company relies on special criteria developed by the Human Resources Department (HR) and Compensation Committee and approved by the Board of Directors. KPI compliance determines bonus payments to top managers. Therefore, Rosneft executive officers’ compensation is linked

to attainment of environmental goals and GHG targets. It is important to note that only Rosneft incorporated environmental performance into remuneration scheme.

Governance category: Public Disclosure

The 6th mark is related to the *Governance Action: Securities filings identify material risks*. The marks in this section were given to Rosneft and Gazprom while two other companies did not present any information that could be considered relevant to the section. The Rosneft Sustainability Report 2012 identifies risks related to geographic and climatic conditions but not referred directly to CC, while Gazprom places climate change among geographic and climate risks and considered affecting Gazprom sustainability performance and bringing the risks of higher frequency of extreme weather conditions, changes in ground temperature, unfavorable human health impact, etc. However, Gazprom has more experience in identifying material risks than Rosneft due to the fact that Rosneft started the implementation of an integrated risk management system in 2012, while Gazprom adopted this system as early as first its sustainability report was published in 2008.

The next *Governance Action: Sustainability report offers comprehensive, transparent presentation of company response measures* turned to be quite complicated to assess. This section involves a huge portion of subjectivity, but the only reports that seemed to offer comprehensive, transparent presentation of company response measures were the reports issued by Lukoil.

After reviewing companies' sustainability reports we can say that Lukoil is unique as it pays attention to the CC and environmental issues in general through the whole sustainability report. Lukoil admits the importance of activities aimed at prevention of global climate change. The Lukoil carbon portfolio includes “14 Russian projects whose implementation helped reduce emissions by 32 mln. tn during the first stage of the Kyoto Protocol obligations from 2008 to 2012” (Lukoil sustainability report, 2011-2012:16). More than 20 percent of total sustainability report pages are devoted to HSE management system that among the others incorporate CC issues.

Lukoil appeared to be the only company that clearly listed all the measures taken towards CC mitigation and what results such measures provided. For example, “modernization and construction of facilities to increase the rate of utilization of associated gas, modernization and construction of new, more efficient combined-cycle turbines at generating facilities, replacement

of equipment for the reduction of pollutant emissions, etcetera” (Lukoil sustainability report, 2011-2012).

Moreover, the company is implementing the four target functional programs for environmental safety, particularly, rational utilization of water resources, reduction of pollutant air emissions, recycling of accumulated oil waste, prevention of contamination and rational use of land resources. Hereafter, Lukoil explains in great detail meanings of the key measures and their fulfillment. Our understanding is that Lukoil not only briefly talks about response measures, but also depicts each of the measures thoroughly. For this reason, Lukoil sustainability reports are recognized as comprehensive and transparent presentation of company response measures, while other companies under the sample do not pay too much attention to the climate change problem, in particular, the mentioning of the words “*climate change*” or “*greenhouse gas emissions*” in the texts of their reports is quite tight.

The check mark in the category, *Governance Action: Company calculates and registers GHG emissions savings and offsets from projects*, is awarded only to Lukoil while other companies did not articulate any related information. Lukoil developed a portfolio of projects for reduction of greenhouse emissions in the company. The Lukoil carbon portfolio includes “*14 Russian projects whose implementation helped reduce emissions by 32 mln tones during the first stage of the Kyoto Protocol obligations from 2008 to 2012*” (Lukoil Sustainability report, 2011-2012: 13).

The check marks in the next category, *Governance Action: Company conducts annual inventory of GHG emissions from operations and publicly reports results* were decided to be awarded to all companies under investigation. All companies appeared to present data in relation to the amount of GHG emissions produced. For instance, Rosneft accumulated all the data in such tables as “*Total pollutant emissions by sector*”, “*Total hazardous emissions by pollutant*”, “*Key HSE performance indicators*” including air emissions kilotons, air emissions of NO_x, SO_x and other material pollutants in thousand tons in dynamics in section “*Air protection*” of Sustainability Reports (Rosneft Sustainability Report, 2008: 57,70; Rosneft Sustainability Report, 2009: 82; Rosneft Sustainability Report, 2010: 90; Rosneft Sustainability Report, 2011: 26-30; Rosneft Sustainability Report, 2012: 96).

Lukoil reported the main indicators of its environmental impact, including air emissions thousand tons, air emissions of NO_x, SO_x and other material pollutants in dynamics in section

“Industrial safety and environmental Protection” of Analyst Data book and in sustainability reports (Analyst Data book, 2012: 65; Lukoil Sustainability Report, 2011–2012: 19).

The check marks in the section *Governance Action: Company has set an emissions baseline by which to gauge future GHG emissions trends* were given to Lukoil and Rosneft. Other companies did not present any targeted values in relation to GHG emissions reduction. Rosneft, for example, presented such data in the tables “*HSE objectives of Rosneft for the period till 2020, target and actual values of key indicators*” and “*Quantitative Environmental Performance Indicators*” presented the key environmental indicators with actual and target values including “*Associated petroleum gas recovery rate, %*”, “*Specific SO₂ emission per tonne of product from the company’s operations, kilogram /tonne*”, “*Specific NO_x emission per tonne of product from the company’s operations, kilogram /tonne*” (Rosneft sustainability report 2009: 74-75; Rosneft sustainability report 2011: 28).

The section *Governance Action: Company has third party verification process for GHG emissions data* implies that a company has its sustainability reports audited. The check marks were awarded to all companies with exception to SNG. For instance, the reports of Rosneft are being audited by the Ernst & Young (CIS) B.V., the RUIE Non-Financial Reporting Council also gives comments and recommendations on the Rosneft Sustainability Report 2011 for the Purpose of public verification (Rosneft Sustainability Report 2008, Rosneft Sustainability Report 2011: 88-91; Rosneft Sustainability Report 2012: 96).

Governance category: Emissions Management & Strategic Opportunities

The category comprise the following *Governance Actions: Company sets absolute GHG emission reduction targets for facilities and products; Company participates in GHG trading programs to gain experience and maximize credits; Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks, and maximize opportunities from changing market forces and emerging controls*. Lukoil earned check marks for all of them: the company set targets for emissions reduction, clearly articulates the importance of trading the green gas emissions quotas and, undoubtedly, pursues business strategies to reduce GHG emissions, and minimizes exposure to regulatory and physical risks.

It is worth to note here that Lukoil is the only company that participates in GHG trading programs: “*We believe that trading in green gas emissions quotas is an efficient tool of providing economic benefits to investors willing to invest in this field. Additional revenue from*

sales of emissions reduction units may be used to upgrade production facilities and solve environmental issues. As of 02.01.2013 out of all the secured emission reduction units the Company was able to sell 919 thousand tones which generated the total of EUR 2.3 mln. Revenues” (Lukoil sustainability report, 2011-2012: 13).

Three companies out of four were awarded check marks in the category *Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks*. Rosneft missed the check mark in the section. The presentation of the Rosneft climate change mitigation policies or even mentioning of the greenhouse gas emissions measures or targets is quite confined or even missed at all. Even more so regarding the formulation and realization of the strategy toward the GHG emissions reduction and deriving opportunities and avoiding risks of climate change. The information presented in the reports related to current governance section can be considered as non-sufficient to fulfill this section and earn the mark. Rosneft regarding its official reports cannot be assessed as the company that clearly states the strategy towards climate change and pay adequate attention to the risks and opportunities connected with the climate change.

In conclusion, it is necessarily to mention that the evaluation and interpretation of the CC governance assessment should be conducted from the position that not all companies under our sample set the same targets in achieving climate change goals because *“no two organizations will have identical carbon footprints or business models”* (Ernst & Young, 2009: 16) therefore the level of CC governance of all of them might be interpreted and evaluated in different ways.

The CERES framework enables us to assess the level of companies’ governance actions and make some reasoning on its basis. The analysis of the companies’ CC governance will be presented in the Analysis Chapter.

4.2.2. Evaluation of climate change performance

“In the general absence of specific environmental reporting requirements companies may elect to present only that information which is favorable to themselves” (Deegan and Gordon, 1996: 51). Many companies choose to use environmental disclosures for self-laudatory purposes. Previous research studies like Guthrie and Parker (1990) also have verified Deegan and Gordon’s assumption that *“companies tend to present information that is favorable to their corporate image”* (Deegan and Gordon, 1996: 51). According to Skjaereth and Skodvin (2003: 7) *“the public profile of an oil company may differ significantly from actual behavior, for*

strategic or practical reasons”. Therefore it was decided to contrast the evaluation of CC governance by amplifying the analysis with the CC performance evaluation.

For the purpose of simplifying the presentation of empirical data the first and second stages of CC performance assessment were incorporated to the one paragraph. The empirical results are presented in the chronological order, starting with the first company assessed and completing with that last in time analyzed.

4.2.2.1. Greenhouse gas emissions performance and resource mobilization assessment

The first stage of the analysis is the GHG emission performance assessment. To compare and contrast the climate change performance of each company the next parameters were employed: annual absolute GHG emissions (kilotons) (Clarkson et al., 2007) and GHG emissions per mln rubles of revenue (per mln USD for Lukoil) (Woynillowicz, 2006).

In elaborating on the interrelation between revenues from sales and pollutant emissions we assume that the more revenues companies generate, the more their need to pollute. It should be noted that the carbon intensity is *“a subject to change on the basis of a change in GHG emissions or a change in net sales. Taking into account that revenue depends on the commodity prices of oil & gas, it can alter without changes in the amount of oil & gas being produced, thus affecting the indicator. But, given the commodity market for oil & gas is an international market, each of the studied companies would be bear the same price spikes on their revenue”* (Woynillowicz, 2006: 50).

However, the reviewing of annual absolute GHG emissions let us chase the trend of air pollution and further compare the trend with the efforts claimed to be deployed in the official reports published by the companies. The values of all the indexes were calculated for 5-year period from 2008 to 2012.

The second stage involves the analysis of the mobilization of resources to accomplish the strategies declared by the companies. Sæverud and Skjærseth (2007: 50) claim that *“upstream and downstream oil & gas activities lead to emissions of two greenhouse gases in particular: carbon dioxide (CO₂) and methane (CH₄). Main investments that can reduce GHG emissions at production facilities are: energy efficiency improvements, upstream and downstream; reduction of venting and flaring; CO₂ capture from the companies’ production facilities and subsequent storage or use for improved oil recovery”* (Sæverud and Skjærseth, 2007: 50). According to

Sæverud and Skjærseth (2007: 45) “actual investments demonstrate genuine commitment to implementation, since investments are most directly related to the application of climate-friendly technologies and accordingly emission reductions”. For this reason, in our study we are guided by the assumption of the interrelation between pollutant emissions and investments in environmental protection. We assume that the more a one company invests in environmental program, the less its pollutant emissions are.

Sæverud and Skjærseth (2007) revealed that the pattern of relationships between strategy formulation and implementation can be seen immediately by the means of the method employed in their study.

Below the first and second stages of each company climate change performance evaluation are presented.

GAZPROM

To compare and contrast the GHG emission performance of Gazprom two indicators were used: annual absolute GHG emissions and GHG emissions per million rubles of net sales for the period from 2008 to 2012 (for 5 years) (Woynillowicz, 2006).

Table 4.2.1 The Gazprom absolute GHG emissions, kilotons (2008-2012)

	2008	2009	2010	2011	2012
Pollutant emissions, kilotons incl. major pollutants:	3340,7	3391,1	3225,3	3124,2	3410,9
carbon oxide	785,5	645,8	666,8	687,2	1031,9
nitrogen oxides	339,4	335,3	377,4	372,6	378,3
sulfur dioxide	248,6	249,1	296,1	260,9	310,0
hydrocarbons (including methane)	1712,4	1859,8	1589,1	1491,1	1606,6

Source: Gazprom environmental report 2012: 14

As seen in table 4.2.1. the Gazprom pollutant emissions grew by 9,15% in 2012 compared to 2011. However, during two years preceding to 2011 we can observe a slight decrease in emissions (by 4, 9% and 3,2% in 2009 and 2010 respectively). The greatest share (more than 50%) in emissions was taken by hydrocarbons (including methane), the lowest – by sulfur dioxide (about 10%).

As a measure of GHG emission intensity, the Gazprom absolute GHG emissions relative to the million rubles of net sales generated were compared over the period 2008 to 2012, as summarized in Table 4.2.2.

Table 4.2.2 The Gazprom GHG emission intensity in dynamics (2008-2012)

	2008	2009	2010	2011	2012
Net sales, million RUB*	3285486	2991001	3597054	4637090	4764411
Pollutant emissions, kilotons*	3340,7	3391,1	3225,3	3124,2	3410,9
Absolute GHG emissions per Million RUB of net sales, tons	1,0168	1,1338	0,8967	0,6737	0,7159
Percent change in Absolute GHG emissions per million rubles of net sales	-	+11	-21	-25	+6

Source: *Gazprom in Figures 2008–2012, own calculations

For further understanding and interpreting the figures presented above and further in this paragraph, there is a need to explain and clarify the procedure and output of our calculations. Calculating the absolute GHG emissions per mln RUB of net sales, tons we used the next formula (on the example of the year 2012):

$$\text{Absolute GHG emissions per million RUB of net sales} = \frac{\text{Pollutant emissions, tons in 2012}}{\text{Net sales, million RUB in 2012}}$$

For example, the value of absolute GHG emissions per million RUB of net sales, tons in 2012 equal to 0,71 means that Gazprom generated 0,71 ton per million of RUB of its net sales while, for example, in 2008 it generated 1, 0168 tons.

Calculating the percent change in absolute GHG emissions per million RUB of net sales we used the next formula (on the example of the year 2012):

$$\text{Percent change in absolute GHG emissions per million rubles of net sales in 2012} = \left(\frac{\text{Absolute GHG emissions per million RUB of net sales, tons in 2012}}{\text{Absolute GHG emissions per million RUB of net sales, tons in 2011}} - 1 \right) * 100$$

It is useful to see the year-by-year change in GHG intensity per million rubles of net sales for the

company. The carbon intensity of the Gazprom revenue generation was decreasing during almost all the period studied. Considering the change in carbon intensity in the year 2012 compared to 2008 we can observe almost 33 % decrease what can testify in favor of successfulness of measures taken by Gazprom in the field of CC mitigation.

The second stage of the analysis described in this paragraph implied the assessment of the mobilization of resources for accomplishment the CC strategies, particularly, the amount of the company’s spending directed to atmospheric air protection. As was stated above in our study we are guided by the assumption of the interrelation between pollutant emissions and investments in environmental protection. We assume that the more a one company invests in environmental program, the less its pollutant emissions are. The results of the analysis and the formulae used for calculations are presented below.

Table 4.2.3 The Gazprom air pollutant emissions (kilotons) and investment in air protection (mln RUB) in dynamics (2008-2012)

Year	Investment: Air protection, mln RUB	Absolute change in investment, mln RUB	Percent change in investment,%	Emissions, kilotons	Absolute change in emissions, kilotons	Percent change in emissions, %
2008	2402,715	-	-	3340,7	-	-
2009	207,5294	-2195,1856	(-) -91,4	3391,1	50,4	(+) 1,5
2010	617,3904	409,861	(+) 197,5	3225,3	-165,8	(-) -4,9
2011	1909,5624	1292,172	(+) 209,3	3124,2	-101,1	(-) -3,1
2012	1651,9212	-257,6412	(-) -13,5	3410,9	286,7	(+) 9,2

Source: Gazprom Environmental Report 2008, 2009, 2010, 2011, 2012

For further understanding and interpreting the figures presented above and further in this paragraph, there is a need to explain and clarify the procedure and output of our calculations. Working on the assessment of investments dynamics, we used the next formulae (on the example of the year 2012):

$$\text{Absolute change in investment, mln RUB (2012)} = \text{Investment: Air protection, mln RUB (2012)} - \text{Investment: Air protection, mln RUB (2011)}$$

$$\text{Percent change in investment, \% (2012)} = \left(\frac{\text{Investment: Air protection, mln RUB in 2012}}{\text{Investment: Air protection, mln RUB in 2011}} - 1 \right) * 100$$

Working on the assessment of emissions dynamics, we used the next formulae (on the example of the year 2012):

$$\text{Absolute change in emissions, kilotons (2012)} = \text{Emissions, kilotons (2012)} - \text{Emissions, kilotons (2011)}$$

$$\text{Percent change in emissions (2012)} = \left(\frac{\text{Emissions, kilotons in 2012}}{\text{Emissions, kilotons in 2011}} - 1 \right) * 100$$

Emissions and investment dynamics observation show ambiguous results, Gazprom did not show a clear trend towards air pollutant emission reduction (emissions fell in two years out of four), as well as towards investment increase (investment increased in two years out of four). However, our supposition about the interrelation between amount of investment made into air protection and the amount of air pollutant generated in the case of Gazprom is fully justified: in 2011 investment rose significantly while the emissions fell, whereas in 2012 investments fell while emissions increased.

The analysis of the Gazprom CC performance introduces some uncertainty about the company’s performance towards climate change and shows a contrast with the results of the CC governance assessment. First of all, Gazprom sets emissions reduction targets (“15—25 % reduction target through 2020 against the 1990”) (Gazprom environmental report, 2012: 16), but considering the year-by-year change in emissions we observe decrease only in 2 cases out of 4 whereas the general trend is negative: emissions increased more than by 2% in 2012 in comparison with 2008. However, the trend of the carbon intensity of operations was generally negative (2012 to 2008 decrease). The same ambiguity shows the investment trend that did not stick to any permanency in time.

Gazprom is establishing reputation as a leader on the environmental issues including climate change, but the results of programs and measures taken and published in its reports cannot be characterized as impressive.

LUKOIL

To compare and contrast the GHG emissions performance of Lukoil two indicators were used: annual absolute GHG emissions and GHG emissions per million USD of net sales for the period from 2008 to 2012 (for 5 years). The measure of carbon intensity for Lukoil was calculated using the same formulae as for Gazprom but in relation to a million USD of net sales instead of million RUB. Such a replacement did not affect the percent change in absolute GHG emissions and did not affect the reasoning made on its basis.

Table 4.2.4 The Lukoil absolute GHG emissions, kilotons (2008-2012)

	2008	2009	2010	2011	2012
Absolute GHG emissions of pollutants, kilotons, including:	813,7	754,7	795	842,3	725,8
NO2 emissions	16,4	16	31,3	30,4	39
SO2 emissions	30,5	45,6	49,1	103,4	83,8
Solid substances emissions	51,6	42,2	46,7	42,5	32,5
CO emissions	458,7	392	429,1	420,7	331,2
Hydricarbon emissions including methane	256	254,6	236,5	238,3	229,5

Source: Lukoil Sustainability Report, 2009-2010: 55; Lukoil Sustainability Report, 2011–2012: 19

As seen in the table 4.2.4 the Lukoil pollutant emissions dropped by almost 14% in 2012 compared to 2011. However, during two years preceding to 2011 we can observe a slight decrease in emissions (by 5,3 % and 5,9% in 2009 and 2010 respectively). Comparing the year 2012 to the year 2008 we can observe a significant decrease in emissions amounted to 11%.The greatest share (more than 45%) in emissions was taken by CO emissions, the lowest – by solids (about 4%).

As a measure of GHG emission intensity, the Lukoil absolute GHG emissions relative to the million USD of net sales generated were compared over the period 2008 to 2012, as summarized in Table 4.2.5.

Table 4.2.5 The Lukoil GHG emission intensity in dynamics (2008-2012)

	2008	2009	2010	2011	2012
Net sales, million USD*	813700	774700	795000	842000	726000

Pollutant emissions, kilotons*	107,68	81,083	104,956	133,65	139,171
Absolute GHG emissions per mln RUB of net sales, tons	7556,6	9554,4	7574,6	6300,0	5216,6
Percent change in Absolute GHG emissions per mln RUB of net sales	-	26	-21	-16,9	-17,2

Source: Lukoil Annual Reports 2008, 2009, 2010, 2011, 2012, Lukoil Sustainability reports 2007-2008, 2009-2010, 2011-2012, own calculations

The carbon intensity of the Lukoil revenue generation was steadily decreasing during all the period studied. Considering the change in carbon intensity in the year 2012 compared to 2008 we can observe 30 % decrease what can testify in favor of the successfulness of measures taken by Lukoil in the field of CC mitigation. The company not only decreased its carbon intensity of operations, but also managed to maintain the positive trend during all the period studied.

The Lukoil performance analysis in relation to the resource mobilization assessment turned to be not fully comprehensive as we had failed to obtain the information about atmospheric air protection spending. The only information available was the information concerning the company’s environmental spending in general. That is why the figures generated in the course of the Lukoil investment assessment might be evaluated as obscure and unreliable. All the calculations are presented in the Table 4.2.6 below.

Table 4.2.6 The Lukoil air pollutant emissions (kilotons) and investment in environmental protection (mln USD) in dynamics (2008-2012)

Year	Investment in environmental protection, mln USD	Absolute change in investment, mln RUB	Percent change in investment, %	Emissions, kilotons	Absolute change in emissions, kilotons	Percent change in emissions, %
2008	705		-	813,7	-	-
2009	419	-286	(-) -40,6	754,7	-59	(-) 7,3
2010	715	296	(+) 70,6	795	40,3	(+) 5,3
2011	715	0	0	842,3	47,3	(+) 5,9
2012	754	39	(+) 5,5	725,8	-116,5	(-) 13,8

Source: Lukoil Annual Reports 2008, 2009, 2010, 2011, 2012, Lukoil Sustainability reports 2007-2008, 2009-2010, 2011-2012, own calculations

Elaborating on the calculations above we observe no clear trend towards the Lukoil environmental investment performance, but can detect a trend towards emission reduction: the 2012 year results (in comparison to 2011 and 2008). Our assumption on the interrelation of investment and emissions was not fulfilled in the case of Lukoil, here we might refer to one of the possible reasons to be the lack of information obtained on the company’s investment dynamics.

The analysis of the Lukoil CC performance represents the evidence of the emissions reduction direction of the company and its adherence to the strategy and its constancy. Considering the figures we can conclude that the company sets reduction targets and actually fulfills its obligations.

Lukoil is not only establishing reputation as a leader on the environmental issues including climate change, but declares its commitment to answer to environmental problems not only in words but also in practice.

SURGUTNEFTEGAS

To compare and contrast the GHG emissions performance of Surgutneftegaz two indicators were used: annual absolute GHG emissions and GHG emissions per million RUB of revenue for the period from 2008 to 2012 (for 5 years).

Table 4.2.7 The Surgutneftegas absolute GHG emissions, kilotons (2008-2012)

	2008	2009	2010	2011	2012
Pollutant emissions, kilotons	287,5	217,4	237,8	208,6	129,0

Source: OJSC “Surgutneftegas” Environmental Report 2008, 2009, 2010, 2011, 2012

During the 5 years (2008-2012) Surgutneftegas set targets to reduce air pollutant emissions by improving technologies. As we can see from the Table 4.2.7, the targets were achieved successfully in spite of the results in 2010 years whereon the level of air pollutant emissions grew by 9,4% compared to 2009. According to the SNG environmental report 2008, the company sought to reduce pollutant emissions by 37, 8 thousand tons in 2009. Consequently, level of air pollutant emissions reduced by 70, 1 thousand tons in 2009, exceeded the target value

almost twice. As seen in Table 4.2.7 the SNG pollutant emissions decreased by 38.1 % in 2012 compared to 2011.

In general, SNG has positive tendency in the target achievement in relation to the reduction of air pollutant emissions. The results show that SNG achieved a steady decline in pollutant emissions and, as a result, in greenhouse gases emissions, followed by decline in the impact on climate change from the SNG actions.

Moreover, according to environmental report 2008, annually, “Surgutneftegas GTP and GPP plants allow us to reduce methane emissions, which if translated in CO2 equivalent, reached 800 thousand tons in 2008. This achievement enables us to implement GTP construction projects to comply with the Kyoto Protocol” (SNG environmental report, 2008:25). That is why SNG can be characterized as company, which strives to achieve international environmental standards.

As a measure of GHG emission intensity, the SNG absolute GHG emissions relative to the million rubles of revenue generated was compared over the period 2008 to 2012, as summarized in Table 4.2.8.

Table 4.2.8 The Surgutneftegas GHG emission intensity in dynamics (2008- 2012)

	2008	2009	2010	2011	2012
Revenue from sales of goods products, works and services, million RUB*		503305	591648	754431	815574
Pollutant emissions, kilotons:	287,5	217,4	237,8	208,6	129,0
Absolute GHG emissions per million rubles of sales revenue, tons		0,4319	0,4019	0,2765	0,1582
Percent change in absolute GHG emissions per million rubles of sales revenue		-	- 7,8	- 30,1	- 42,8

Source: * SURGUTNEFTEGAS Annual reports 2008-2012, own calculations

Note: The figures in some cells are missed due to the limited information available on the SNG official website

The carbon intensity of the SNG revenue generation is steadily decreasing during all the period studied. Considering the change in carbon intensity in the year 2012 compared to 2009 we can observe more that 60 % decrease what can testify in favor of successfulness of measures taken by the SNG in the field of CC mitigation. The company not only decreased its carbon intensity of operations, but also managed to maintain the positive trend during all the period studied. Moreover, SNG presented itself to be a leader among studied companies in decreasing the

carbon intensity of its operations.

In order to build clear and coherent results there is a need to analyze SNG dynamics of investments in environmental protection. Here we also start from the assumption of the interrelation between pollutant emissions and investments in environmental protection. We assume that the more company invests in environmental program, the less pollutant emissions are. All the calculations are presented in the Table 4.2.9.below.

Table 4.2.9 The Surgutneftegas air pollutant emissions (kilotons) and investment in air protection (mln RUB) in dynamics (2008-2012)

Year	Investment in air protection, mln RUB	Absolute change in investment, mln RUB	Percent change in investment, %	Emissions, kilotons	Absolute change in emissions, kilotons	Percent change in emissions, %
2008	2319,04	705,34	-	287,5	-34	-
2009	2535,53	216,49	(+) 8,54	217,4	-70,1	(-) -32,24
2010	1597,9	-937,63	(-) -58,68	237,8	20,4	(+) 8,58
2011	1816,01	218,11	(+) 12,01	208,6	-29,2	(-) -14
2012	1858,82	42,81	(+) 2,3	129	-79,6	(-) -61,71

Source: OJSC “Surgutneftegas” Environmental Report 2008, 2009, 2010, 2011, 2012, own calculations

The climate change data from the SNG reports is connected with the usage of best technologies and innovations needed significant amount of investment. From 2011 year to 2012 year the environmental investments were growing. As we can see from the Table 4.2.9, our assumption was right: if SNG investments in air protection are growing in comparison with the previous year, the percentage change in air emissions falls. Hence, we can summarize that the SNG investment in environmental projects influenced the air emission reduction positively. In 2013 SNG pursues to invest in its environmental safety measures at least 20 billion rubles annually.

The analysis of the SNG CC performance represents the evidence of the emissions reduction direction of the company and its adherence to the strategy and its constancy. Considering the

figures we can conclude that the company sets reduction targets and actually fulfills its obligations.

Based on the foregoing we can conclude, that the SNG performance can be characterized as effective. Most of targets in the field of environmental protection were successfully achieved during the studied years.

ROSNEFT

To compare and contrast the GHG emissions performance of Rosneft two indicators were used: annual absolute GHG emissions and GHG emissions per million rubles of net sales for the period from 2008 to 2012 (for 5 years). Table 4.2.10 presented below shows the Rosneft absolute GHG emissions in dynamics.

Table 4.2.10 The Rosneft absolute GHG emissions, kilotons (2008-2012)

	2008	2009	2010	2011	2012
Pollutant emissions, kilotons incl. major pollutants:	897.2	944.88	925.03	1023.31	1359.00
carbon oxide	492.89	496.51	502.30	525.19	738
nitrogen oxides	22.08	21.96	25.76	33.00	37
sulfur dioxide	75.15	49.44	50.72	45.52	41
hydrocarbons (including methane)	115.76	123.81	107.24	186.97	251

Source: Rosneft Sustainability Report 2008, 2009, 2010, 2011, 2012

At first view, we observe that Rosneft from year to year maintain the increase in the amount of total air pollutant emissions. In 2012 in comparison to 2008, the overall emissions of Rosneft amounted to 1359 kilotons, or 51.5% more than 5 years ago. According to sustainable and annual reports, this was a result of acquisition of major new asset such as TNK-BP. Consequently, it would be incorrect to directly compare the 2008 and 2012 emission data for the company.

As of 2012 year oil production operations were responsible for the largest share of company pollutant emissions – 90.5 %. According to the official data, “*the share of sulphur dioxide in total emissions increased as a result of changes in the composition of extracted associated petroleum gas*” (Rosneft sustainability report, 2012: 56).

In order to minimize the negative environmental impact Rosneft mainstreamed new technologies to the oil production program and implement new measures like “increasing APG utilization rate by using it for Company own needs; reconstruction of pressurized and low-pressure; adjustment of burners, boilers, furnaces, etc.; repairing tanks, cleaning and painting them; air quality monitoring etc” (Rosneft sustainability report, 2012: 46). As an example, the increase in APG utilization allowed not only to reduce its flaring but “also to substitute other types of fossil fuel, thus contributing to greenhouse gas emissions reduction” (Rosneft sustainability report, 2012: 46).

Based on the foregoing we can conclude that from the one point of view Rosneft sets targets to minimize negative environmental impact by implementing effective measures. Nonetheless, from the other point of view, due to the rise of the company assets, the oil production is increasing, and consequently the amount of total emissions grows. That is why we can figure out, in spite of the goals to reduce negative impact to the environment Rosneft relishes the opportunity to develop their main activities.

In order to construct the assessment of the company’s climate change performance, we are to calculate the interrelation between revenues from sales and pollutant emissions. Our assumptions that the more one company earns revenue, the more pollutant emissions it generates. As a measure of GHG emission intensity, the Rosneft absolute GHG emissions relative to million rubles of net sales generated were contrasted over the period 2008-2012. The results of the analysis are presented below.

Table 4.2.11 The Rosneft GHG emission intensity in dynamics (2008-2012)

	2008	2009	2010	2011	2012
Net sales, million RUB*	1 271 629	1 233 000	1 573 100	2142700	3078000
Pollutant emissions, kilotons*	897,03	944,88	925,03	1023,31	1359
Absolute GHG emissions per mln RUB of net sales, tons	0,71	0,77	0,59	0,48	0,44
Percent change in Absolute GHG emissions per mln RUB of net sales	-	8,63	-23,27	-18,78	-7,55

Source: Rosneft Sustainability report 2008, 2009

Elaborating on the calculations presented above we observe quite clear results in relation to the Rosneft carbon intensity, the trend is well-defined: the carbon intensity was decreasing during

the last three years studied. Rosneft demonstrated the decrease in revenue in 2009 during the financial crisis when pollutant emission also decreased.

Despite of the negative trend of the carbon intensity, Rosneft still demonstrated unsatisfactory results in terms of absolute GHG emission performance: emissions were steadily growing during almost all the period studied (except the year 2010). But the latter should be interpreted with the TNK-BP acquisition considerations.

Making sense to the figures obtained through the calculations we might assume that Table 4.2.11. does not present accurate results of intensity in GHG emissions due to different external factors that influenced Rosneft and that were discussed above.

In order to build clear and coherent results there is a need to analyze the dynamics of investments made in environmental protection by Rosneft. In the case of Rosneft environmental investment comprises capital environmental expenditures, mln RUB, and operating environmental expenditures, mln RUB. All the calculations are presented in the Table 4.2.12 below.

Table 4.2.12 The Rosneft air pollutant emissions (kilotons) and investment in environmental protection (mln RUB) in dynamics (2008-2012)

Year	Investment in environmental protection, mln RUB	Absolute change in investment, mln RUB	Percent change in investment, %	Emissions, kilotons	Absolute change in emissions, kilotons	Percent change in emissions, %
2008	7450	-		897,03	-	
2009	11769	4319	(+) 57,97	944,88	47,85	(+) 5,33
2010	13331	1562	(+) 13,27	925,03	-19,85	(-) -2,10
2011	17922	4591	(+) 34,44	1023,31	98,28	(+) 10,62
2012	22080	4158	(+) 23,20	1359	335,69	(+) 32,80

Source: Rosneft Sustainability Report 2007, 2008, 2009, 2010, 2011, 2012, Rosneft Annual Report 2009, 2012, own calculations.

Emissions and investment dynamics observation showed ambiguous results, Rosneft showed a negative trend towards air pollutant emission reduction (emissions dropped only in one year out of four), but did show the positive trend toward environmental investment. However, our supposition about the interrelation between amount of investment made into environmental

protection and the amount of air pollutant generated in the case of Rosneft was justified only in one year out of four analyzed: in 2010 environmental expenditures growth was attended with the drop in air pollution what is certainly not the case for the years 2009, 2011 and 2012.

4.2.2.2. Mass media profiles assessment

The companies' mass media profiles assessment is the third stage of the companies' performance evaluation. Elaborating on the assumption that mass media presentation of each company is independent and is not affected by the companies themselves, we believe that mass media information concerning each company's CC or environmental performance might serve as a source of inquiring into the real actions of the studied companies in relation to their CC mitigation practices (Deegan and Rankin, 1996, Adams, 2004, Antilla, 2004).

In this paragraph we aimed to examine how corporate portrayal of environmental issues, particularly CC related issues, coincide with the portrayal of performance in sources originated from outside the corporation.

In his work Adams (2004) aims to measure the extent to which an organization is accountable to its stakeholders, he uses the “reporting-performance” portrayal gap as a measure for comparing the information obtained on the studied company's performance from company's official sources and from external sources. Concluding his study, Adams (2004) is of particular concern of the lack of “completeness” of reporting. According to Adams (2004) *“a good ethical report should be transparent and represent a genuine attempt to provide an account which covers negative as well as positive aspects of all material impacts”* (Adams, 2004: 732).

In reviewing media reports we aimed to cover issues that were either not covered in the companies' reports or for which a different portrayal was identified (Adams, 2004). In order to get a comprehensive and feasible results in this section and support the reasoning for the whole study we aimed to cover either positive or negative information in mass media given that, for example, a company can score high in terms of CC governance while its GHG emissions performance assessment shows ambiguous results or, on the contrary, a company performs poor governance practices while steadily shows commitment to CC mitigation through GHG emission analysis.

On the stage of the planning our study we counted on the adequacy and sufficiency of information that could be obtained from mass media due to the fact that climate change is the

issue that is widely talked about. However, our expectations were not fulfilled. The range of information related to climate change and, especially, Russian oil & gas industry performance, turned to be confined, so we had to somehow redirect our study and methods used. We tried to broaden the area of our search in terms of looking for information related not only to climate change practices performed by companies but their environmental policies in the wide sense, being guided by the fact that CC related policies, that in fact arise from environmental policies and known to be an inseparable part of the latter, are in close connection with companies environmental walks. The list of search terms was broadened with “environmental policy”, “oil spill”, “exceeding”, “environmental damage”, “environmental impact”.

As far as we aimed to monitor the companies’ “talks” (what they consider appropriate to lay open to the public) and companies’ “walks” (real actions/efforts performed by the companies (that are to be traced through quantitative analysis of pollution, mobilization of resources and mass media representation) we reckoned the information related to environmental policies of one company in a wide sense as a ground for making some reasoning in relation to company’s CC performance. For instance, if one company was traced for improper treatment of oil spill consequences we would count such an information as going against or contrasting the positive portrayal of the company’s CC mitigation commitment declared in official reports as far as oil spill may be considered a source of the GHG emissions and indirectly affect the air pollution level performed by the company.

Below the collected data is presented for each company in the same order as in the previous paragraphs. Considering the scope of our study and limitations posed on the volume of our study we insist upon presenting only most comprehensive and suitable examples of mass media coverage of the companies’ performance.

In order to present the data obtained through the mass media profiles assessment it was decided to present only the following items: the source of the information, the year of publication, a heading for each article and a short comment. Such compact presentation is believed to be sufficient for making reasoning on this stage assessment and allowed us to simplify the empirical data presentation and understanding as much as possible.

GAZPROM

The examples of the Gazprom positive performance (see Table 4.2.13 below) were found but decided not to place a particular emphasis on. The fact is that the majority of them occurred in

the sources that are in possession of Gazprom. As far as we aimed to assess CC performance of the company from the perspective of objectivity and independency of information such positive examples of Gazprom performance are not presented in this paragraph. The only positive information given in mass media was about partnership with Lukoil.

Table 4.2.13 Gazprom: the results of mass media profile assessment

Source	The year of publication	Article heading
POSITIVE PORTRAYAL		
http://www.offshoreenergytoday.com/	2014	<i>“Gazprom, Lukoil Team Up to Prevent Offshore Oil Spills”</i>
NEGATIVE PORTRAYAL		
http://www.greenpeace.org/	2013	<i>“Gazprom - one of the five major “climate destroyers”</i>
http://www.rusecounion.ru/	2013	<i>“Gazprom is among TOP 20 “producers” of greenhouse gases in the world”</i>
http://www.bellona.ru/	2014	<i>“Gazprom”, “Lukoil” and “Rosneft” have been included in the list of responsible for climate change”</i>
http://www.theguardian.com/	2013	<i>“Which fossil fuel companies are most responsible for climate change?”</i>
http://www.themoscowtimes.com/	2012	<i>“Gazprom Is an Environmental Hazard”</i>
http://www.wwf.ru	2012	<i>“Gazprom: One Group, Two Standards”</i>
<u>The Global Warming Policy Foundation/</u> The magazine “Gas industry”	2013	<i>“Scientists warn of ice age”</i>
TOTAL (Positive/Negative)		1/7

Note: All the information given in the Table obtained through mass media observation (see the Methodology Chapter)

However, we managed to obtain plenty of negative examples related to the Gazprom’s environmental practices (see Table 4.2.13 above). The variety of articles named Gazprom to be one of the major world polluters, among them are *“Gazprom - one of the five major “climate destroyers”*, *“Gazprom is among TOP 20 “producers” of greenhouse gases in the world”*,

“Gazprom”, “Lukoil” and “Rosneft” have been included in the list of responsible for climate change” and others”. All these articles blame the company for producing the major part of GHG emissions, not only within Russian boundaries, but on a global scale. For instance, the List of Earth Focus Private Sector Carbon Emissions placed Gazprom on the fourth place among the 347 pollutants all over the world. The RusEcoUnion placed Gazprom to the 4th place: “Gazprom Russia Energy increased emissions by 4.5% up from seventh place world ranking emissions in 2010 (131'219'300 tons of CO₂) on the 4th (137'184'240 tons of CO₂)”. Green Peace placed the company on the 5th place in the list of major “climate destroyers” after Chevron (U.S.), Exxon Mobil (U.S.), SaudiAramco (Saudi Arabia) and BP (UK).

The information given above sets a major trend, direction of mass media opinion about the Gazprom. The general trend is consolidated with separate facts of the Gazprom negative performance.

Other sources charged Gazprom with having the double standards assigning the company with the title “environmental hazard”. Vladimir Ryzhkov¹⁴ named Gazprom as the Environmental Hazard, commenting on the WWF's report *“Gazprom: One Group. Two Standarts”*.

“Gazprom cannot tout itself as an environmentally responsible company if it ignores those recommendations and continues its reckless disregard for the environment in Russia”.¹⁵ The same information was reported by The Moscow Times and by the WWF official website: *“at a recent meeting at the company's Moscow headquarters, Gazprom CEO Alexei Miller declared 2013 the “year of Gazprom ecology”. But even if Gazprom intended to meet the most stringent environmental standards in its projects in Europe, such as Nord Stream, the same cannot be said of its work in Russia”*¹⁶.

The WWF official website reports that *“Gazprom goes out of its way to position itself in Europe as a modern and environmentally responsible company”*¹⁷ at the same time it performs the policy of “two standards” towards its operations in Russia, among the examples are the Kolskaya oil rig, the Prirazlomnoye drilling platform, the Sakhalin-2 and Sakhalin-3 projects on Sakhalin island, oil pipeline to China along the “western route” that cross over the Ukok Plateau and others.

¹⁴ A State Duma deputy, well-known Russian opposition politician and host of Radio “Echo of Moscow”

¹⁵ <http://greenlab-market.livejournal.com/3541.html>

¹⁶ <http://www.themoscowtimes.com/opinion/article/gazprom-is-an-environmental-hazard/473571.html/> <http://www.wwf.ru>

¹⁷ <http://www.wwf.ru>

Another source reported on the inconsistency between company’s talks on its adherence to climate change mitigation and the views on climate change articulated by its employees. The article “*Scientists warn of ice age*” by Ulli Kulke and Die Welt revealed such inconsistencies: “*The head of “Gazprom VNIIGAZ” Vladimir Bashkin and Rauf Galiulin from Russian Academy of Science have drawn up the paper for the Research Institute VNIIGAZ of the Gazprom Group in which they discard the anthropogenic influence on the global climate, reducing everything to the cycles of solar activity*”. In the view of the fact that Gazprom VNIIGAZ is responsible for greenhouse gas emissions monitoring at Gazprom’s facilities the information initially published in the Russian magazine “Gas industry” gives quite an ambiguous image of the Gazprom policy.

LUKOIL

Mass media covers a range of the company’s activities that characterizes it from the positive side. The examples of the Lukoil positive performance are given below (see Table 4.2.14 below). The majority of them are not related directly to CC policy but give a general review of the company’s environmental performance.

Table 4.2.14 Lukoil: the results of mass media profile assessment

Source	The year of publication	Article heading
POSITIVE PORTRAYAL		
http://www.neftyaniki.ru/	2013	“ <i>Lukoil received a diploma of Vernadsky Environmental Fund</i> ”
http://neftegaz.ru/	2014	“ <i>Lukoil Plans To Spend \$2 bln on Environmental Projects</i> ”
http://econadzor.com/	2013	“ <i>LUKOIL</i> ” issued its environmental program for public discussion”
http://www.ng.ru/	2013	“ <i>Five-Year Environmental protection in LUKOIL</i> ”
http://marchmontnews.com/	2013	“ <i>Lukoil’s eco-friendly technology helps produce oil under river bottom</i> ”
http://www.offshoreenergytoday.com/	2014	“ <i>Gazprom, Lukoil Team Up to Prevent Offshore Oil Spills</i> ”
NEGATIVE PORTRAYAL		

http://www.bellona.ru/	2014	<i>“Gazprom”, “Lukoil” and “Rosneft” have been included in the list of responsible for climate change”</i>
http://www.theguardian.com/	2013	<i>“Just 90 companies caused two-thirds of man-made global warming emissions”</i>
http://fedpress.ru/	2013	<i>“Lukoil-Komi” will pay 615 million for environmental damage caused by oil spills”</i>
http://en.ria.ru/business/	2012	<i>“Lukoil Hit With ‘Biggest Oil Spill Fine in Russian History”</i>
TOTAL (Positive/Negative)		6/4

Note: All the information given in the Table obtained through mass media review (see the Methodology Chapter)

The Internet resource “Neftyaniki” reports on the diploma of the Vernadsky fund (founded by Gazprom and organized for sustainable ecological socially-oriented development) which Lukoil earned. Owing to the technology the company became the first Russian company that had received the certificate of environmental management system on the international level. And since 2008, it became one of the participants of the Global Compact, the UN adopted, according to which Lukoil is involved in many projects aimed at preserving the environment and works closely with Greenpeace. The resource highlights that *“getting such a significant award is a major achievement for the company “Lukoil” and rated environmental policy, which has repeatedly been approved by independent experts of the Russian Federation and abroad”*¹⁸. The prize was awarded for *“advanced technology development of offshore fields, which received the name of “zero discharge”*¹⁹.

Another resource reports on planned expenditures of the company to environmental issues. The article *“Lukoil Plans to Spend \$2 bln on Environmental Projects”* contains peculiar information about expenditures on air protection: *“75% of the funds would go to implement a clean-air project to cut greenhouse gas emissions by 17,000 metric tons in 2009-2013. Over that period, Lukoil enterprises are tasked with cutting a total of 645,000 metric tons of polluting emissions”*²⁰. The article *“Five-Year Environmental protection in LUKOIL”* issued by “Nezavisimaya gazeta” testifies in favor of positive environmental performance of the company: *“in september Lukoil presented the new environmental safety program that covers the period 2014-2018 years. This*

¹⁸ <http://www.neftyaniki.ru/>

¹⁹ <http://www.neftyaniki.ru/>

²⁰ <http://neftegaz.ru/en/news/view/85329>

program covers more than 20 directions of environmental measures that will significantly reduce the negative impact on the environment. Compared with the previous five-year plan the amount of funds allocated will be increased almost 1.5 times to 140 billion rubles. Every year Lukoil raises the level of the rational use of APG - in 2008 70.9 % of the gas was utilized, in 2013 the figure was 88.5 %, and over the next three years it is planned to reach 95%”²¹.

The Internet resource “Marchmont Innovation News” reported on the Lukoil success in embedment of new eco-friendly technology.

OffshoreEnergyToday.com paid attention to the existence of joint policies by Gazprom and Lukoil aimed to prevent oil spills. It is highlighted in the article that the fact that Lukoil and Gazprom cooperate in this important matter is yet another example of companies’ adherence to the eco-friendly principles.

Covering Lukoil negative performance we, first of all, take into account the information from Greenpeace International, The Guardian, Rurecounion, Bellona Foundation, Kommersant and others that reckon Lukoil among the fossil fuel companies most responsible for climate change. Some of the negative mass media opinion examples are given below.

Bellona, independent non-profit organization that aims to meet and fight the climate challenges, in the article by Sergey Eremeyev named “*Gazprom, Lukoil and Rosneft are included in the list of companies responsible for climate change*” reported on the Lukoil negative performance: “*Russian oil & gas corporations again distinguished themselves in the eyes of the international environmental community. Just three of them were on the list of companies which are responsible for climate change - “Gazprom”, “Lukoil” and “Rosneft”*. The list includes 90 companies responsible for two thirds of all industrial emissions of CO₂ and methane in the world from 1751 to 2010. Lukoil is responsible for 0.27 % of world GHG emissions.

Other sources reported on the environmental damage caused by the oil spill produced by the company. The news agency “Federal Press” informs about the negative consequences of violation environmental laws by Lukoil - “*Lukoil Komi*” will pay 615 million for environmental damage from oil spills”. Green Peace considered such a fine to be the biggest environmental fine in Russia’s history²². The same information was reported by the Russian business newspaper.

²¹ http://www.ng.ru/economics/2013-09-20/4_lukoil.html 20.09.2013

²² <http://en.ria.ru/>

SURGUTNEFTEGAS

No any external sources reported on the SNG measures in air protection or environmental policies found during mass media monitoring. All the information found, definitely, can be referred to the positive representation of the company but made by the resources that are in possession of the company or by the company itself. The lack of references about the company’s environmental performance in media, for certain, affects the reasoning on our study and its quality at large, but it does allow us to make some implications. According to Adams (2004) lack of references in the media in connection with reported company’s environmental issues could indicate that the company’s performance on them is considered satisfactory by journalists. Another implication on the problem given by the author is that the poor performance is widespread and therefore the given company is not singled out (Adams, 2004: 739). Adams (2004) also highlights that a company does not claim to be accountable for all its environmental impacts to media.

ROSNEFT

The examples of the Rosneft positive performance were found but decided not to place a particular emphasis on. The fact is that the majority of them occurred in the sources that are in possession of the Rosneft. As far as we aim to assess CC performance of the company from the perspective of objectivity and independency of information the positive examples of Rosneft performance are not presented in this paragraph.

Table 4.2.15 Rosneft: the results of mass media profile assessment

Source	The year of publication	Article heading
POSITIVE PORTRAYAL		
-	-	-
NEGATIVE PORTRAYAL		
http://www.bellona.ru/	2014	<i>“Gazprom”, “Lukoil” and “Rosneft” have been included in the list of responsible for climate change”</i>
www.newsland.ru/	2011	<i>“Environmentalists keep out of Rosneft and British Petroleum in the Arctic”</i>

http://www.vedomosti.ru/	2013	<i>“The Rosneft’s subsidiary Yuganskneftegaz was traced for an oil spill”</i>
http://www.greenpeace.org/	2013	<i>“Rosneft and Statoil in the pursuit of the Arctic oil”</i>
http://ecodelo.org/	2013	<i>“Rosneft’s oil spills”</i>
http://tvrain.ru/	2013	<i>“After us, the deluge. Rosneft hides environmental catastrophe in the Tyumen region”</i>
http://www.1prime.ru/	2013	<i>“Rosneft’ subsidiary paid 2.35 million for the spill on the Yamal”</i>
http://www.sakhalinprokur.ru/	2011	<i>“Rosneft- Sakhalinmorneftegaz officials brought to administrative and disciplinary proceedings”</i>
TOTAL (Positive/Negative)		0/8

Note: All the information given in the Table obtained through mass media observation (see the Methodology Chapter)

According to the Bellona Foundation Rosneft is also included in the list of responsible for climate change, emitting 0.19 % of CO₂ emissions in the world. The News agency “NewsLand” in the article *“Environmentalists keep out of Rosneft and British Petroleum in Arctic”* reported on the damage caused by the company’s operation in the Arctic: *“strategic alliance between British Petroleum and Rosneft attracted the attention of environmentalists. These oil giants plan to engage in joint research and development area of 125 thousand square km in the Kara Sea in the Russian Arctic. Member of WWF Eugene Shvartz states that BP and “Rosneft” do responsible for climate change. Rosneft has the worst environmental figures in Russia among integrated Russian oil & gas companies”*²³. Plenty of sources reported on the oil spills produced by the company. Vedomosti presented the criminal case initiated against the Rosneft subsidiary “Yuganskneftegaz” for the oil spill. Damage from the oil spill by “Yuganskneftegaz”, identified in September 2013, was valued at 1 billion rubles.

RIA Novosti reported on oil company “Vankorneft” (a subsidiary of Rosneft) that paid 2.35 million rubles at the request of the prosecutor's office for damage to the environment caused by four tons of oil spill on a section of the main oil pipeline in the Yamal-Nenets Autonomous District. The news agency “1 prime” also reported the damage valued at 2, 35 million rubles caused by the Rosneft subsidiary on the Yamal.

²³ www.newsland.ru/

The article named “*After us, the deluge. Rosneft hides environmental catastrophe in the Tyumen region*” also reported on the massive oil spill in the Khanty-Mansi Autonomous District.

The EcoDelo informational portal named the company as the world leader in the number of spills.

Green Peace official website in the article “*Rosneft and Statoil in the pursuit of the Arctic oil*” urges a reader to write a letter to the Prime Minister of Norway demanding to prevent the dangerous plans and keep the Arctic pristine. Green Peace claims Statoil to be known for its double standards and Rosneft to be one of the “dirtiest” oil companies in the world.

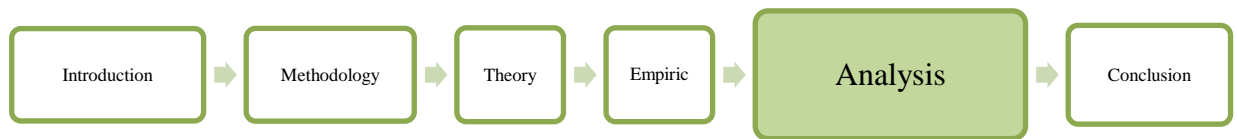
4.3. Summary

The carbon intensity of operations is known to be a crucial factor in constructing oil & gas company’s response to CC. That is why the Chapter began with the evaluation of each company’s carbon intensity by assessing the oil & gas reserves and oil & gas production. The carbon intensity assessment helped us to make some reflections towards the nature of companies’ responses that are to be found out further in our study. After that, we presented the companies profiles in order to understand the overall companies’ environmental policies.

In order to resolve the problem that underlies our study we needed to assess the level of each company’s CC governance and performance. The level of CC governance was evaluated with the help of *the Climate change Governance Checklist* designed by CERES, all the companies were assessed with accordance to the CERES categories and all were given a certain amount of checkmarks. We also gave interpretation of results obtained through the analysis by commenting each governance action and providing the reasons why a checkmark was decided to be awarded or not.

The CC performance analysis implied three stages of companies’ performance evaluation. Each of the stages gave some reflection on the level of company’s performance while all of them advantageously complemented each other aiming to explore the level of performance in relation to CC mitigation.

V. ANALYSIS



The Chapter presents the analysis made on the basis of the empirical data. First, we give evaluation to all companies’ climate change governance. Second, we review the results obtained through all three stages of the climate change performance analysis and give an evaluation to the CC performance level of each company under the sample. And finally, we combine the reflections derived on both the levels of climate change governance and performance and define the relations exist between these two concepts. The synthesis of climate change governance and performance perspective is also considered through the lens of previous studies findings and tested within the chosen theoretical basis.

5.1. Climate change governance analysis

The concept of climate change governance was chosen in order to frame, evaluate and give concrete expression to the idea of how companies formulate CC strategy or how they portray themselves. *The Climate Change Governance Checklist* was utilized for evaluating the governance practices of the chosen companies and hence gave an assessment of companies’ portrayal and strategy formulation (Cogan, 2006).

Each company studied scored check marks for all sections and was given a total amount of check marks. The highest score 14 (due to the amount of sections designed by CERES) assumes that the superior governance practices were performed by a company during a period studied and the lowest score 0 – the poorest governance practices towards CC mitigation. Therefore, if a company scores high according to the check list (more than 80% of total amount of checkmarks), we assume that it positions itself as a superior performer in relation to CC mitigation; if a company scores average (from 50% to 80% of total amount of checkmarks) we assume that it performed satisfactory towards CC mitigation; and if a company scores low (less than 50% of total amount of checkmarks), we elaborate on the idea that it does not take much efforts to presents itself as a superior performer.

Reviewing the results obtained through the CC governance analysis done by the means of *the Climate Change Governance Checklist* we observe the leadership of Lukoil that scored 12 check

marks out of 14 (86% out of 100%), followed by Gazprom (9 check marks out of 14; 64% out of 100%) and Rosneft (8 check marks out of 14; 57% out of 100%). The poorest results showed Surgutneftegas scored only 5 check marks out of 14 (36% out of 100%). Definitely, we observe a certain divergence among the CC governance practices performed by the Russian oil & gas industry. The results of climate change governance evaluation are presented in the Table 5.1.1 below.

Table 5.1.1 Main implications from CC governance analysis and the results of the governance level assessment

	GAZPROM	LUKOIL	SNG	ROSNEFT
Check mark received (out of 14)	9	12	5	8
Check mark received, % (out of 100%)	64%	86%	36%	57%
The level of governance assigned	satisfactory	superior	inferior	satisfactory

Making sense to the analysis, results of which presented in the Empiric Chapter, it is helpful to highlight the common trends in climate change governance identified through CERES analysis basing on the publication “*Corporate Governance and Climate Change: Making the Connection*” (Cogan, 2006). First of all it would be sensible to discuss the factors that typically contribute to the industry-leading positions of some companies. Climate change leadership is proved to be one of the implications of the Kyoto Protocol ratification; therefore companies based in countries that have ratified the protocol began to implement greenhouse gas emissions control²⁴. Another factor that plays a key role in CC governance leadership is highly competitive milieu in which a company operates. Cogan (2006) also pays great attention to other factors that stimulate the CC governance leadership: integration of board and management environmental roles, long-term planning cycles and a commitment to sustainability reporting.

The CERES report assigns oil & gas sector to the low scoring sectors, thus, some of the companies placed among oil & gas sector showed striking scores: Royal Dutch and Statoil are among the companies that scored more than 70 out of 100 points while BP taking an absolute leadership scored 90 points out of 100. This fact testifies in favor of high divergence among Russian oil & gas companies in relation to their CC governance practices.

²⁴ Russia refused to participate in the second phase of the Kyoto Protocol started from the January, 2013.

Apart from the common trends in CC governance proposed by CERES on account of the alterations in methodology employed in our study it would be sensible to note the limitations and shortcomings of the analysis presented within CC governance assessment.

First of all, the analysis done by the means of *The Climate Change Governance Checklist* does not employ the full range of measures that companies can deploy to address global warming. For instance, the results obtained during the Gazprom governance analysis might not be considered as entirely ample as far as the company employs a range of important CC mitigation measures that are not taken into account by the checklist. Some of the measures are presented below:

1. due to the specific character of oil & gas extraction operation the company pays great attention to APG utilization policy, making large investments in research and development;
2. the company has special projects for the greening of the motor complex in Russia by promoting the production of motor fuel, construction of gas filling stations and production of gasoline and diesel fuel that meet international standards of Euro-3 and Euro-5.

At the same time we may assume that the criteria proposed by CERES do not reflect a full picture of company's CC response measures and cannot be considered fully comprehensive. Collaborating on the same example of Gazprom, we consider that despite the company scored average (*satisfactory* level) according to *The Climate Change Governance Checklist* it is reasonable to note several negative moments:

- Despite the company in its strategy declares to mitigate the negative environmental impacts and its commitment to the Kyoto protocol, this declaration in the near examination falls into conflict with the nature of its operations – oil & gas extraction. Despite of all the declarations to mitigate climate change the main business strategy the Gazprom pursues is the capacity expansion: *“The global LNG market is booming – primarily in Asian countries. Novel LNG production capacities are the key to achieving a strong position in this market”* (Alexey Miller's column)²⁵.

“Gazprom's strategic goal is to become a leader among global energy companies through developing new markets, diversifying operations, ensuring reliable supplies, increasing efficiency of operations, and utilizing scientific and technological capabilities” (Gazprom sustainability report, 2010-2011: 24).

- The checklist sets a low threshold to register company responses to certain actions. For example, *“it gives credit to any mention of climate change in a company's security filings.*

²⁵ <http://www.gazprom.com/>

Pursuit of these actions does not ensure that a company will achieve effective responses to climate change – no more than a well-implemented environmental management system guarantees reductions in environmental impacts and liabilities” (Cogan, 2003: 19). Gazprom identifies risks being produced by the climate change in its reports but there are no clear evidences that comprehensive programs to mitigate risks are adopted. This fact may serve as the evidence of the climate change being talked about but not dealt with.

- The distribution of Gazprom’s main funds allocated for environmental programs in 2012 might serve as the evidence of the company’s modest attention to air protection given the nature of its operations: 63% - water protection, 17% - land protection, 12% - atmosphere protection, 6% - waste reduction.²⁶

We should emphasize here again that we do not take the position that such an analysis provides any exact or precise measurement, but rather it provides the means of determining the overall picture of the level of the companies’ governance practices.

5.2. Climate change performance analysis

As stated at the beginning of this Chapter the climate change performance assessment in our study was threefold and was based on the analyses of actual GHG emissions by each company (Clarkson et al., 2007; Woynillowicz, 2006), the assessment of the mobilization of resources to accomplish CC mitigation strategies (Sæverud and Skjærseth, 2007) and the review of companies’ media profiles (Adams, 2004).

The main implications derived from the climate change performance analysis are presented in the Table 5.2.1 below. All of them were designed to present the results of CC performance evaluation in a most suitable and comprehensive way.

5.2.1. Main implications from CC performance analysis

	GAZPROM	LUKOIL	SNG	ROSNEFT
Main implications from GHG emissions performance analysis:				
Percent change in absolute GHG (2012 to 2008), %	+2%	-10,8%	-55,1%	+51%
Percent change in absolute GHG (2012 to 2011), %	+9%	-14%	-38,5%	+32,8%

²⁶ <http://www.gazprom.com/>

Trend for the period studied	Unclear, 2 ups 2 downs	Unclear, 2 ups 2 downs	Positive, 3 downs 1 up	Negative, 3 ups 1 down
Percent change in GHG emissions intensity (2012 to 2008), %	-29,6%	-30,9%	-63,37%	-38%
Percent change in GHG emissions intensity (2012 to 2011), %	+6%	-17,2%	-42,8%	-7,55%
Trend for the period studied	Unclear, 2 ups 2 downs	Positive, 4 downs 1 up	Positive, 3 downs 1 not identified	Positive, 3 downs 1 up
Main implications from the resource mobilization assessment:				
Percent change in investment, (2012 to 2008), %	-31%	+7%	-19,8%	+196%
Percent change in investment, (2012 to 2011), %	-13%	+5,5%	+2,3%	+23,2%
Trend for the period studied	Unclear, 2 ups 2 downs	Unclear, 2 ups 1 down 1 did not change	Positive, 3 ups 1 down	Positive, All ups
Main implications from the mass media profiles assessment:				
Positive portrayal/ Negative portrayal	1/7	6/4	-/-	0/8

Making sense to the overall picture of the companies CC performance, we need to make an intermediary conclusion on their GHG emission, carbon intensity, environmental spending and mass media profile performance.

Below the overview of main implications derived from the analyses mentioned above are given. The short conclusions are given separately for each company’s performance.

GAZPROM

For the period studied the company’s absolute GHG emissions have grown (2% increase for a five-year period), while the current trend (2012 in comparison to 2011) is also unsatisfactory: 9% in 2012 compared to 2011. The general trend of GHG emissions, however, is not clear, we can

observe either ups or downs. GHG emissions intensity analysis showed more tolerable results in the medium run: the emissions intensity fell by almost 30% in 2012 in comparison to 2008. However, the company did not show any continuous positive trend of its carbon intensity during the period studied.

As for the spending of the company directed to the atmospheric air protection, the results are also unimpressive. Overall spending on air protection decreased in medium run by 31%, in short run the same investment type fallen by 13% (in 2012 in comparison to 2011). The general trend of investment can be referred to neither positive nor negative one.

The company’s mass media representation can be evaluated as unsatisfactory. The amount of “bad” news in relation to the Gazprom environmental policy overweighed the amount of “good” ones significantly: one “good” news to 7 “bad” ones.

LUKOIL

For the studied period Lukoil has achieved quite an impressive success in absolute emissions reduction: almost 11% and 14% less air pollutants in 2012 in comparison to 2008 and 2011 respectively. However, the overall trend of its GHG emissions is also unclear. More rigorous results the company achieved in relation to its emissions intensity reduction: more that 55% decrease in 2012 in comparison to 2008 and 38,5% decrease in 2012 in comparison to 2011. The general trend of the emissions intensity is positive: the company achieved reduction in 3 cases (years) out of 4.

As for the performance in relation to environmental spending Lukoil also achieved certain success: despite that the trend for 5 years is ambiguous, the company achieved 7% increase in environmental investment for five-year period studied. The short run trend is also positive: more that 5% increase in 2012 in comparison to 2011.

Lukoil appeared to be a leader by the performance in relation to its mass media profile assessment. We managed to obtain 6 “good” news and 4 “bad” news related to the company’s environmental performance. Lukoil proportion of positive mass media representation let the company take a leading position in the section.

SURGUTNEFTEGAS

For the period studied Surgutneftegas achieved the most impressive results in terms of GHG emissions reduction and the carbon intensity reduction among all 4 companies under

investigation. The decrease in absolute GHG emissions performed by the company was, in fact, fascinating: 55,1 % less air pollutants in 2012 in comparison to 2008. The short run trend as well as long run trend is positive: GHG emission reduction achieved in 2012 in comparison to the previous year was equal to almost 39%, while GHG emissions decline was achieved in 3 years out of 4.

Nevertheless, in relation to air protection investment policy, SNG did not show positive results: overall investment fell by almost 20% for the period studied. However, the company managed to retain the positive long run trend in this section.

Unfortunately, we failed to obtain any information connected to the company's environmental performance in media. The absence of references about the company's environmental performance in media, for certain, affects the reasoning on our study and the quality of our study at large, but it does allow us to make some implications. According to Adams (2004) lack of reference in the media in connection with reported company's environmental issues could indicate that the company's performance on them is considered satisfactory by journalists. Another implication on the problem given by the author is that the poor performance is widespread and therefore the given company is not singled out (Adams, 2004: 739). Adams (2004) also highlights that a company does not claim to be accountable for all its environmental impacts to media.

ROSNEFT

Contrasting the results of SNG performance in the field of GHG emissions and intensity reduction, Rosneft for the five-year period has shown the worst results among all four Russian oil & gas companies. We can observe the rise in GHG emissions for the 5 year equal to almost 51%, and almost 33% rise in 2012 in comparison to the previous year. The overall trend of GHG emissions is negative, with 3 ups and 1 down. However, Rosneft achieved positive results in terms of carbon intensity reduction: the overall positive trend with 38% less air pollutant emissions per million RUB in 2012 compared to 2008 and 7,55 % less - compared to 2011. It is necessary to mention that the results of the company in relation to GHG emissions performance might have been strongly affected by the company's expansion with the TNK-BP acquisition. Therefore, the implications derived from such an analyses should be interpreted and understood with particular caution. Nevertheless, the carbon intensity, a measure that was used to eliminate the divergence in companies' size, is especially useful in the case of Rosneft. We can assume that after acquisition the value of the Rosneft sales grew, but the absolute amount of emissions

also increased by adding TNK-BP air pollutants amount, however, the analysis showed the positive trend towards intensity reduction what may testify in favor of the company's CC performance.

Regarding the company's environmental spending performance we may treat Rosneft as an absolute leader of the section: 196% rise in environmental investment in 2012 compared to 2008. The trend of environmental spending is also positive: the company succeeded to multiply its environmental spending in all four periods.

The Rosneft environmental performance profile in media appeared to be completely negative: we managed to obtain the information regarding the company's poor environmental performance (8 references) and no any positive references at all.

For better articulation and interpretation of the results pertaining to the CC performance evaluation it was decided to assign all the companies under the sample a particular level of performance. Considering the main implications of CC performance analysis presented in the Table 5.2.1 above we assigned *superior*, *satisfactory* or *inferior* level of performance to each company studied according to the amount of “green” cells depicted in the Table 5.2.1. “Green” cell indicates that the performance of a company towards a criteria assigned to a particular section is positive, “yellow” cell indicates that the performance of a company towards a criteria assigned to a particular section cannot be evaluated or obscure; “red” cell indicates that the performance of a company towards a criteria assigned to a particular section is negative or unsatisfactory.

For the purpose of the performance level assessment we do not take into consideration the sections that indicated the trends for the period studied. Therefore, we got 7 criteria for assessment: Percent change in absolute GHG (2012 to 2008), %; Percent change in absolute GHG (2012 to 2011), %; Percent change in GHG emissions intensity (2012 to 2008), %; Percent change in GHG emissions intensity (2012 to 2011), %; Percent change in investment, (2012 to 2008), %; Percent change in investment, (2012 to 2011), %; Mass media portrayal (positive/negative).

We consider the level of performance *superior* if a company amounts more than 80% of “green” cells of total amount of cells for each company, *satisfactory* if a company amounts from 50% to 80% of “green” cells of total amount of cells for each company and *inferior* if a company amounts less than 50% of “green” cells of total amount of cells for each company.

Below the results of performance level assessment are presented.

Table 5. 2. 2 The results of the performance level assessment

	GAZPROM	LUKOIL	SNG	ROSNEFT
“Green” cells received (out of 7)	1	7	6	4
“Green” cells received, % (out of 100%)	14%	100%	86%	57%
The level of performance assigned	inferior	superior	superior	satisfactory

Reviewing the results obtained through the CC performance analysis we observe the leadership of Lukoil and SNG that received 100% and 86%, respectively, followed by Rosneft (57% of “green” cells out of 100%) and Gazprom (14% of “green” cells out of 100%). Therefore, according to the level assessment procedure described above we assigned Lukoil and SNG performance to *superior* level of performance, Rosneft was assigned to *satisfactory* level of performance and Gazprom – to *inferior* level of performance.

We should emphasize here again that we do not take the position that such an analysis provides any exact or precise measurement, but rather it provides the means of determining the overall picture of the level of the companies’ performance practices.

5.3. Reviewing the relationships between the level of CC governance and the level of CC performance

Each of the four chosen Russian oil & gas companies was evaluated on both its climate change governance and performance. As was stated previously in the Empiric Chapter the motive for looking at both governance and performance came from a desire to better comprehend and articulate the relations between companies’ “talk” (a company’s strategy towards CC mitigation, policies and programs to address the climate change) and “walk” (management of GHG emissions).

For simplifying the presentation and interpretation of the main implications derived from the companies’ climate change governance and performance analyses, it was decided to present all the results in one resumptive table. The main implications of the CC performance and governance analyses are shown in the Table 5.3.1 below.

Table 5.3.1 Synthesis of the CC governance and performance level assessment

	GAZPROM	LUKOIL	SNG	ROSNEFT
The level of governance assigned	satisfactory	superior	inferior	satisfactory
The level of performance assigned	inferior	superior	superior	satisfactory

Making sense to the CC governance and performance levels assessment one would discuss the findings and review the relations exist between corporate reporting and performance two-by-two with regard to the levels assigned through CC performance assessment (superior or satisfactory and inferior).

Superior performers: LUKOIL and SURGUTNEFTEGAS

By reviewing the results obtained through the assessment of the companies’ CC governance and performance we observe two surprising findings: the looser upon the results of CC governance analysis (5 check marks out of 14: *inferior* governance practices), SNG, showed the leading performance in terms of absolute GHG emissions and carbon intensity reduction and the startling air protection investment boost. SNG was assigned not only to the *superior* performance level but also performed the most efficient CC mitigation measures (see Table 5.2.1); whereas, the absolute leader in CC governance (12 check marks out of 14: *superior* governance practices), Lukoil, also performed well towards climate change mitigation upon the results of CC performance assessment (but worse than the leader according to the values of measurements used, see Table 5.2.1) and was assigned with the *superior* performance practices level. Generally the Lukoil performance, with the view on its positive results for all sections presented in the Table 5.2.1 above and its *superior* performance upon the results of media profile assessment definitely can be referred to the leading position as well.

Despite of the fact that SNG does not pay too much attention to the portrayal of its CC mitigation practices in the official reports, it performed best of all towards actual measures deployed to mitigate climate change, the results of the company’s CC performance testifies in favor of this reasoning. At the same time, Lukoil that presents its governance practices on the high level also showed superior performance.

Satisfactory and Inferior performers: ROSNEFT and GAZPROM

The results of the two other companies, Gazprom and Rosneft, turned to be vague: we can observe no consistency between how these companies “talk” about their CC mitigation policy

and how they actually “walk” in this direction. Gazprom and Rosneft were assigned to **satisfactory** levels of governance upon the CC governance assessment (9 and 8 check marks out of 14, respectively) whereas the results of their performance differ from each other and were assigned to satisfactory and inferior levels, respectively.

Rosneft as a **satisfactory** performer received 4 “green” cells out of 7 through CC performance assessment, while Gazprom, being assigned to the **inferior** level, received only 1 “green” cell out of 7. In these cases, we observe a certain divergence of performance within two companies’ performance levels: Rosneft performed both strategy formulation and implementation on the same levels – scored 57% in CC governance evaluation and the same 57% in CC performance, while Gazprom performed strategy formulation and implementation differently – scored 64% in CC governance evaluation and only 14% in CC performance.

Therefore, we can observe a certain contingency between the Rosneft CC governance and performance levels assessment and high divergence between the Gazprom levels of governance and performance. With the view on the fact that such an analysis does not provide any exact or precise measurement of CC governance or performance level, in case of Rosneft we can conclude that the company performed evenly according to the both measurements and define the relations exist between its climate change strategy formulation and implementation as **neutral**. With the view on the high divergence between the results obtained through Gazprom’s CC governance and performance assessment we consider the relations exist between its climate change strategy formulation and implementation **negative**: we consider that Gazprom portrayed its CC practices quite extensively while performed quite poor measures towards actual CO₂ reduction.

Making sense to the all implications stated above we observe no consistency between the portrayal/performance relation in terms of CC mitigation policies under the sample. In the case of Lukoil we observe **positive** relations between the extensiveness and quality of its carbon disclosure and the effectiveness of its CC performance, while the SNG and Gazprom cases showed **negative** relations between portrayal and performance. The portrayal/ performance relation revealed upon the analysis of Rosneft CC governance and performance obstructs the reasoning on the studied issue due to the existence of **neutral** relations between its “talks” and “walks”.

As far as our investigation of relations between CC governance and performance has given quite

ambiguous results we need to interpret the reasoning obtained through the study with the view at the previous studies findings and relying on the support of the theoretical framework discussed in the Theory Chapter. The next two paragraphs will discuss our study finding within the context of previous studies' findings and the chosen theoretical frameworks.

5.3.1. Reviewing the relationships between the level of CC governance and the level of CC performance within the context of the previous studies' findings and the chosen theoretical frameworks

There are some empirical evidences that association between the level of corporate environmental disclosure and corporate environmental performance remains an unresolved issue (Al-Tuwaijri et al., 2004; Hughes et al, 2001; Patten, 2002 cited by Clarkson et al., 2007). Clarkson et al., (2007: 2) states that *“the results of previous studies on the relation between environmental performance and environmental disclosure have been ambiguous”*.

Patten (2002) reviewed the previous studies pertaining to the performance/disclosure relation (Fekrat et al., 1996; Freedman and Wasley, 1990; Ingram and Frazier, 1980; Wiseman, 1982) and concluded that, generally, *“these studies failed to provide any significant evidence of the relation existence between disclosure and performance”* (Patten, 2002 cited by Cho and Patten, 2007:640).

Elaborating on the argument that poorer environmental performers do have stimulus to make disclosures to answer the threats posed to their legitimacy, Patten (2002) conducted his own study and came with the conclusion that companies with poorer environmental performance had more extensive environmental disclosure. Therefore, the expected negative relations between environmental performance and environmental disclosure were supported (Patten, 2002).

Hughes et al. (2000) revealed no differences in voluntary disclosure across the better and worse performers, while Al-Tuwaijri et al. (2004) detected the positive disclosure/performance relation (disclosure scores were higher for the companies with *superior* environmental performance (verified in the case of Lukoil).

Generally, the previous research overview of the studies devoted to investigation of disclosure/performance relation testifies in favor of mixed results and absence of the findings convergence in this field (Patten, 2002). Such reasoning is consistent with the results of our

study in the view of the absence of the convergence and homogeneity between companies' level assessment results.

For better understanding the essence of phenomenon studied one would discuss the findings with accordance to the related theoretical framework. We used two competing predictions from the two alternative theories. The first prediction is derived from voluntary reporting theory (Dye, 1985; Verrecchia, 1983 cited by Clarkson et al., 2007) and the other - jointly from socio-political theories (Patten, 2002).

Socio-political theories, including political economy, legitimacy theory and stakeholder theory (Patten, 2002), forecast a negative association between one company's environmental performance and the adequacy of environmental disclosure produced by the company. According to Patten (2002) *“companies facing greater exposures, as companies with poorer environmental performance could be assumed to do, would be expected to provide more extensive environmental disclosures, and as such, a negative association between performance and disclosure is posited”* (Patten, 2002:765).

On the other hand, voluntary disclosure theory (Dye, 1985; Verrecchia, 1983 cited by Clarkson et al., 2007) predicts a positive association between one company's environmental performance and the adequacy of environmental disclosure produced by the company. *“The notion is that superior environmental performers will convey their “type” by pointing to objective environmental performance indicators which are difficult to mimic by inferior type firms”* (Clarkson et al., 2007: 2).

Using the socio-political theories to test the relation between the integrity and completeness of reporting and the effectiveness of company's performance, we have come up with the following reflections.

In the light of socio-political theories poor performers must present the more integrative and extensive representation of their CC mitigation policies in order to satisfy the terms of the social contract, get or maintain the legitimization of their actions or abide the interests of stakeholders. Our study revealed one company, Gazprom, to be relatively poor performer in terms of CC mitigation (in comparison with the leaders). At the same time the company reported its CC mitigation policies and practices extensively in environmental disclosures. Therefore, the theoretical foundation keeps step with the implications obtained for this company through the empirical study.

Here we can employ the reasoning derived from the main implications of legitimacy theory: according to Gray et al. (1995) *“when the best environmental performers make the most disclosures about positive environmental activities, the disclosure reflects a form of legitimacy. However, when poor environmental performers make many statements about positive environmental activities, the disclosures reflect legitimization. Disclosures made to legitimize corporation activities do not provide truly useful information”* (Gray et al., 1995: 65 cited by Hughes et al., 2001: 219).

Within the framework of socio-political theories good environmental performers might present poor environmental disclosures (the case of SNG) because *“they do not consider these good actions news, or because good actions fall outside current accounting disclosure standards”* (Bewley and Li, 200:205 cited By Hughes et al., 2001:219). According to Guthrie and Parker (1990) good environmental practices might not be the subject to the same level of regulatory and standard-setting requirements as are *“environmental compliance and remediation expenditures”* (Guthrie and Parker, 1990: 169 cited by Hughes et al., 2001: 219). Hughes et al. (2001) states that *“poor performers are subject to more remediation than those who have not engaged in environmental degradation”* (Hughes et al., 2001: 238). Therefore, poor performers must disclose more.

As for the reasoning for the poor performers with poor disclosures (no empirical evidences found) one can name the following. Hughes et al. (2001) explains the situation by the limited willingness of companies to disclose environmental information. They, in fact, respond to the public pressure but responding they choose to disclose only minimum required. In turn, Ullman (1985) connects such behavior with the costs associated with environmental responsibility programs: *“this is because such activities come at the expense of programs that more obviously further the shareholders' interests; many managers, therefore, are thought to deem it unwise to report extensively about social performance”* (Ullman, 1985:543).

Fry and Hock (1976) offer an interesting explanation of the phenomenon, in their opinion environmental disclosures are *“nothing but public relations gestures meant to ward off grassroots attacks by social activists. Hence, disclosures may be linked less to performance than to other variables such as company size, visibility, and external pressure”* (Fry and Hock, 1976 cited by Ullman, 1985:543).

There is a range of studies that came up with the conclusion that environmental disclosures are largely selective and self-laudatory and that are consistent with our reflection on the Gazprom policies (Harte and Owen, 1992, Deegan and Gordon, 1996, Neu et al., 1998 cited by Bewley and Li, 2000:203).

Further, we use voluntary disclosure theory in attempt to explain why companies disclose different levels of information that may or may not be congruent with the companies' performance. *“This theory holds that fully disclosure is necessarily because non-disclosure suggests that a firm is concealing “bad news”* (Bewley and Li, 2000:222).

Testing our empirical findings within the framework of voluntary disclosure theory we got the following reflections. Obviously, only one out of four studied cases is consistent within this theoretical framework. The extensiveness and integrity of the Lukoil reporting towards CC mitigation are positively correlated with its CC performance. Indeed, the results obtained upon the company's CC performance assessment testify in favor of the superior CC mitigation practices of the company that are successfully embedded in the whole environmental management system. At the same time, Lukoil scored the biggest amount of check marks upon the CC governance assessment what argues in favor of the extensiveness, integrity and quality of presented information. Within the voluntary disclosure theory Lukoil maintains its superior environmental performance by pointing to objective environmental indicators; the cause upon such behavior, according to the theory, lies in the willingness of the company to stand out among other companies in the industry that belong to “inferior” or “satisfactory” performers by employing and, at the same time, reporting the superior practices of CC mitigation that are difficult to mimic. In other words, Lukoil, as a superior performer, is more forthcoming in truly environmental disclosing, as predicted by voluntary disclosure theory.

Ullman (1985) comments on such a phenomenon as positive relations could indicate that only well-to-do companies can afford the luxury of superior performance.

Bewley and Li (2000) in their study came up with the conclusion that companies *“with more news media coverage of their environmental exposure, higher pollution propensity, and more political exposure are more likely to disclose general environmental information”* (Bewley and Li, 2000: 201). That could be right for the Lukoil case.

Bewley and Li (2000) find explanation to the positive disclosure/performance relation in a company size. They argue that large companies have a relatively lower cost to disclose

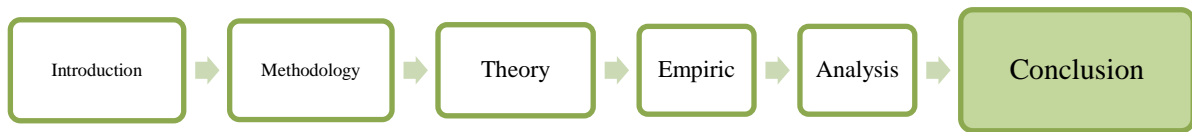
environmental information and therefore disclose more. Large companies may disclose more in order to reduce “*potential litigation risks*” that are believed to grow with a company’ size (Bewley and Li, 2000: 203). The reflections given above could justify the empiric finding pertaining to Lukoil (as a relatively large company), but appear not to be true for other large companies (Rosneft, Gazprom and SNG).

The empirical findings related to the SNG CC governance and performance, particularly the low level of disclosure, can be interpreted as concealment of some “bad” news within the framework of voluntary disclosure theory. Such an argumentation is not verified by our empirical findings.

5.4. Summary

Summing up this Chapter and basing on the empirical data presented in the previous Chapter, we can conclude that the relations between the level of corporate carbon disclosure and the level of CC mitigation performance are not clear-cut. We managed to detect **positive**, **negative** and **neutral** relations existing between two studied concepts. The Lukoil disclosure/performance assessment testifies in favor of **positive** relations exist between company’s portrayal of its CC practices and the actual implementation of policies, the case of Lukoil appeared congruent with the voluntary disclosure theory. On the contrary, the SNG and Gazprom disclosure/performance assessments testify in favor of **negative** relations exist between company’s portrayal of its CC practices and the actual implementation of policies; the cases find explanations in socio-political theories. The picturesque illustrations of the socio-political theories implications are the disclosure/performance relations revealed in the case of Gazprom: company provided quite an extensive and comprehensive portrayal of their CC mitigation policies while the CC performance assessment showed inferior level of performance. The Rosneft disclosure performance relations were evaluated to be **neutral**. Therefore, we observe no consistency between the portrayal/performance relations in terms of CC mitigation policies among the studied companies.

VI. CONCLUSION



This Chapter is organized to link the major finding with the problem statement and research questions opened in our master thesis, discuss the main contributions and set the possible directions for future research.

6.1. Answering research questions

This study sought to achieve the following objectives: 1) to assess the Russian oil & gas companies' levels of CC governance and performance; 2) to evaluate relations between strategy formulation and implementations in revealing how Russian oil & gas companies actually perform in mitigating CC. Being more precise, we aimed to evaluate the level of corporate reporting and the level of corporate performance in relation to CC mitigation and make the reasoning on the relationships exist between them.

Each of the four chosen Russian oil & gas companies was evaluated on both its climate change governance and performance. As was stated previously in the Empiric Chapter the motive for looking at both governance and performance came from a desire to better comprehend and articulate relations exist between companies' climate change mitigation “talk” and “walk” .

After reviewing all the relevant literature as well as discussing and analyzing the empirical findings we are finally able to present answers to our research questions.

Research Question 1: *How Russian oil & gas companies can be evaluated from the position of climate change governance?*

The empirical data pertaining to the CC governance assessment presented in the Empiric Chapter, while the levels of CC governance derived for each of the four companies chosen are discussed in the Analysis Chapter. Utilizing the categories for the climate change governance level assessment we came up with the following findings.

Reviewing the results obtained through the CC governance analysis done by the means of *the Climate Change Governance Checklist* we observe the leadership of Lukoil that scored 12 check marks out of 14 (86% out of 100%), followed by Gazprom (9 checkmarks out of 14; 64% out of

100%) and Rosneft (8 checkmarks out of 14; 57% out of 100%). The poorest results showed SNG scored only 5 check marks out of 14 (36% out of 100%).

According to the range of categories designed to measure the level of governance Lukoil was assigned to the *superior* level of climate change governance, Rosneft and Gazprom performed *satisfactory* level of climate change governance, while SNG showed the poorest results in this section and was assigned to the *inferior* level of governance. We should note here that despite Rosneft and Gazprom were assigned the same levels of CC governance, Gazprom performed better scored 9 checkmarks (64%), while Rosneft scored only 8 checkmarks out of 14 (57%).

Below all four companies under the sample are ranged in a graphic form according to the level of climate change governance performed (see Figure 6.1.1. below).

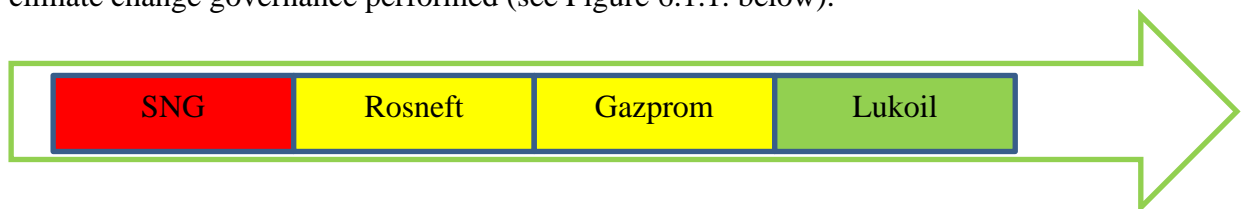


Figure 6.1.1 The companies ranged with accordance to the climate change governance level performed

Definitely, we observe a certain divergence among the levels of CC governance practices performed by the Russian oil & gas industry.

Research Question 2: *How Russian oil & gas companies can be evaluated from the position of climate change performance?*

The empirical data pertaining to the CC performance assessment presented in the Empiric Chapter, while the levels of CC performance derived for each of the four companies are discussed in the Analysis Chapter. Utilizing the categories for the climate change performance level assessment we came up with the following findings.

Reviewing the results obtained through the CC performance analysis we observe the leadership of Lukoil that amounted all 7 criteria out of 7 (100% out of 100%), followed by SNG (6 criteria out of 7; 86% out of 100%) and Rosneft (4 criteria out of 7; 57% out of 100%). The poorest results showed Gazprom scored only 1 criterion out of 7 (14% out of 100%).

According to the range of categories designed to measure the level of performance Lukoil and SNG were assigned to the *superior* level of climate change performance, while Rosneft were

assigned to the *satisfactory* level and Gazprom showed the poorest results in this section was assigned to the *inferior* level of performance.

Below all four companies under the sample are ranged in a graphic form according to the level of climate change governance performed (see Figure 6.1.2. below).



Figure 6. 1. 2 The companies ranged with accordance to the climate change performance level

Reviewing the results of CC performance level evaluation we can observe not only a high divergence among the levels of CC performance presented by the Russian oil & gas industry but also a high level of inconsistency between how companies “talk” and “walk” towards the climate change mitigation strategies (see Figures 6.1.2 above).

Our study was devoted to the investigation of the relations between climate change strategy formulation and implementation among Russian oil & gas companies. Being more precise, we aimed to evaluate the level of corporate reporting and the level of corporate performance in relation to CC mitigation and make reasoning on the relationships between them. The research questions discussed above were designed to contribute to the solution of the problem statement presented in the beginning of our Thesis.

We formulated the problem statement as follows:

What are the relationships between the level of corporate reporting and the level of corporate performance in relation to climate change mitigation strategies?

By reviewing the relations exist between the companies’ CC governance and performance we obtained two surprising findings: the looser upon the results of CC governance analysis (5 check marks out of 14: *inferior* governance practices), SNG, showed the leading performance in terms of absolute GHG emissions and carbon intensity reduction and the startling air protection investment boost, whereas, the absolute leader in CC governance (12 check marks out of 14: *superior* governance practices), Lukoil, also performed well towards climate change mitigation upon the results of CC performance assessment and was assigned to the *superior* performance level as well.

Despite that SNG does not pay too much attention to the portrayal of its CC mitigation practices in the official reports, it performed best of all towards actual measures deployed to mitigate climate change, the results of the company’s CC performance testifies in favor of this reasoning. At the same time, Lukoil that presents its governance practices on the high level also showed superior performance.

Rosneft performed evenly for both CC governance and performance and was assigned to the *satisfactory* level.

Gazprom, in turn, was assigned to *satisfactory* level of governance upon the CC governance and assessment whereas the results of its performance turned to be unsatisfactory and were referred to the *inferior* level of performance.

According to the range of categories designed to determine the direction or tendency of disclosure/performance relations the Lukoil disclosure performance relations were found out to have *positive* direction, while the Gazprom and SNG disclosure/performance relations appeared to have *negative* direction. The Rosneft case was evaluated as having the *neutral* relation between the level of CC governance and performance.

We should note here that our finding appeared to be congruent with the supposition made in the beginning of the Theory Chapter about interdependency of one company carbon intensity and its reactivity or proactivity towards climate change mitigation. The companies with less carbon intensive operations, Lukoil and SNG, appeared to embed more proactive strategies, while more carbon intensive Gazprom and Rosneft – less proactive ones (see Table 4.1.6).

Making sense to the all implications stated above we observe no consistency between the portrayal/performance relation in terms of CC mitigation policies under the sample. As far as we found no congruency among all companies’ empirical findings we have not managed to interpret all our finding within one theoretical framework. The fact that our findings are verified by two alternative or competing predictions testifies in favor of ambiguousness and vagueness and absence of convergence between the results obtained in relation to disclosure/performance relation assessment as stated by the previous studies.

The previous research works present the examples of divergence between CC strategy formulation and implementations but the studies in this area have incorporated mostly European and US oil & gas companies while our master thesis involves the sample of the Russian oil &

gas companies. Therefore, our study appeared to be unique as it focuses on Russian oil & gas companies' CC strategy formulation and implementation.

Finally, we came to the conclusion that although the levels of disclosures differed among the companies studied they were not useful in determining or predicting the companies' actual performance level and vice versa.

6.2. Contribution

We believe that our research has theoretical and practical contribution and the main approaches and findings can be used by other researches within the identical field of interests. The framework of our research can be used to improve the current findings and to develop the current study, for instance, for all Russian oil & gas companies or for subsidiaries of Russian oil & gas companies located in the same region.

Empirical data might be interesting for companies under the sample, which have already presented their disclosures and performance. Moreover and more importantly, this research may be in use for other Russian oil & gas companies planning to formulate and implement strategy to climate change mitigation. As regards to the theoretical contribution, the analysis of relations between CC governance and performance discussed within the theoretical and literature framework in the Theory Chapter, can be used by the researches focusing on the oil & gas companies' strategy to climate change formulation and implementation.

We believe that some Russian and international organizations and journalists interested in Russian oil & gas companies' climate change strategies can find our Thesis interesting in some aspects.

6.3. Proposal for future research

Our study may shed the light on the future development of the studied topic and also can be used as a background for future research. Future research could be conducted on the basis of the larger sample of Russian oil & gas companies with the view to provide deeper understanding of Russian oil & gas companies' CC strategies formulation and implementation.

Another important issue to be included into future studies and connected to the topic is to add empiric data generated through the interview with Russian oil & gas companies' representatives.

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Appendices

Appendix A

Climate change governance evaluation on the basis of CERES *Climate Change Governance Checklist*

ROSNEFT

Governance category : Board oversight

- Governance Action: Board committee has explicit oversight responsibility for environmental affairs*

“Industrial and environmental safety is controlled by the core departments of environmental safety and technologies and industrial and labor safety. In 2012, these departments in consort with the Energy department have become subordinates of a single vice president. The Strategic Planning Committee of the Board of Directors oversees environment, labor and industrial safety”²⁷.

Also see the sections “Executive officers are in key positions to monitor climate change and coordinate response strategies” and “Execution Executive officers’ compensation is linked to attainment of environmental goals and GHG targets”.

- Governance Action: Board conducts periodic review of climate change and monitors progress in implementing strategies*

“In 2008, the overall hazardous emissions of Rosneft amounted to 897.2 kt, or 28% more than in the previous year. This was a result of acquisition of major new assets in the middle of 2007.

APG flaring is the largest source of pollutant emissions of the Company. In order to increase APG utilization rate, Rosneft has developed and is implementing a Company-wide Gas Program.

In 2008, the APG utilization rate in Rosneft subsidiaries reached 62.9%, or 1.9 percentage points more than the target established for the year (61%)” (Rosneft Sustainability Report, 2008: 57-58).

“Overall emission reductions over the period of the projects implementations were:

at the Kharampurskoye field — some 70 thousand tonnes of CO₂ eq;

at the Priobskoye field — some 2,837 thousand tonnes of CO₂ eq;

at the Khasyreiskoye field — 543 thousand tonnes of CO₂-eq.

Thus, as a result of those projects alone, the Company was able to reduce its GHG emissions by over 3.4 mln tonnes of CO₂-equivalent” (Rosneft Sustainability Report, 2012: 39).

Governance category: Management execution

- Governance Action: Chairman/CEO clearly articulates company’s views on climate change and GHG control measures*

In all addresses of Igor Sechin, The former Chairman of the Rosneft Board of Directors, throughout the studied period the prevailing attention was paid to financial performance and business success achieved by the company.

“Responding to the challenges posed by the global crisis, we focused our efforts on the fulfillment of our commitments to stakeholders and implementation of priority projects.

The company achieved successes in all strategically important areas of activities, expanding its resource base, increasing oil production and refining output, and continuing the reduction and restructuring of its debt (Rosneft Sustainability Report, 2009: 4).

The Rosneft’s strategic objective is to become one of the world’s top three companies in terms of operational and financial performance” (Rosneft Sustainability Report, 2009: 5).

²⁷ <http://www.rosneft.com/Development/>

“Our most important objectives for the future include improving the structure of output of our refining operations, enhancing the environmental qualities of our fuels, and making a transition from the status of a national player working mainly with traditional fields and technologies to that of the global leader in the energy resource sector” (Rosneft Sustainability Report, 2010: 7).

In the address of Sergey Bogdanchikov, the former President of Rosneft, some mentioning of the environmental issues was identified:

“The company continued to improve its integrated management system and to implement such targeted programs as the environmental program, the gas program, and the pipeline Reliability improvement program. The company’s subsidiaries were able to achieve certain successes in reducing their environmental impacts” (Rosneft Sustainability Report, 2009: 7).

In the address of Eduard Khudainatov, the current President of OJSC Rosneft Oil Company, some mentioning of the environmental issues was identified:

“Rosneft will continue the implementation of all its environmental programs in order to achieve the objectives set for the year 2020 within the defined timeframe. We are going to raise our efforts on the remediation of environmental damage from past activities of our subsidiaries to a new level and to work towards achieving a 95% rate of associated petroleum gas recovery” (Rosneft Sustainability Report, 2010: 9).

In the message of the current chairman of the board of directors of Rosneft, Alexander Nekipelov, the prevailing attention was also paid to financial performance and business success achieved by the company:

“In 2011, the Company’s key objective was to begin the transformation from a status of a national-level player working mainly with traditional oil fields and technologies to a status of a global leader in the energy resources sector” (Rosneft Sustainability Report, 2011: 4).

However, neither clear articulation nor even mentioning of the of CC issues by CEOs or Presidents of the company found.



Governance Action: Executive officers are in key positions to monitor climate change and coordinate response strategies

“The President of the Company has been designated responsible for:

- annual preparation and publication of sustainable development reports,
- development of the system for interaction with stakeholders,
- development of the uniform corporate automated data bank of sustainable development indicators.

Every top manager of the Company is accountable to the Board of Directors in terms of key performance indicators (KPI). KPI compliance determines bonus payments to top managers. KPIs are defined on the basis of certain objectives, which among other things cover information transparency, environmental and industrial safety, social benefits of the personnel and interaction with the society” (Rosneft Sustainability Report, 2012: 23).



Governance Action: Execution Executive officers’ compensation is linked to attainment of environmental goals and GHG targets

“Since 2008, in making its decisions on remuneration of independent directors, Rosneft relies on special criteria developed by the HR and Compensation Committee and approved by the Board of Directors (Rosneft Sustainability Report, 2008: 43).

Every top manager of the Company is accountable to the Board of Directors in terms of key performance indicators (KPI). KPI compliance determines bonus payments to top managers. KPIs are defined on the basis of certain objectives, which among other things cover information transparency, environmental and industrial safety, social benefits of the personnel and interaction with the society”²⁸

Governance category: Public Disclosure



Governance Action: Securities filings identify material risks

The Sustainability Report 2008 identifies the HSE-related risks.

“The Company core operations are associated with large-scale and diverse environmental impacts. Exceedance of the allowable impact levels established by the regulatory authorities may result in heavy penalties imposed on the Company and damage to its reputation” (Rosneft Sustainability Report, 2008: 44).

Such an articulation of the risk can be considered as not detailed, just indirectly related to climate problems.

²⁸ <http://www.rosneft.com/Development/>

No any comprehensive and full picture of risks connected with the environmental impacts in early sustainability reports found. Among environmental risks only Risk of technogenic disasters in the production and refining sectors was mentioned (Rosneft Sustainability Report, 2011: 15).

From the Conclusion of the RUIE Non-Financial Reporting Council on the Findings of the Review of Rosneft Sustainability Report 2011 for the Purpose of Public Verification:

“The theme of non-financial risk management deserves broader coverage. It is recommended to discuss it in more details in the future reports in the context of corporate responsibility and sustainability management and in connection with the implementation of the Company strategy.” (Rosneft Sustainability Report, 2011: 91-92)

Rosneft started the implementation of an integrated risk management system in 2012. The Rosneft Sustainability Report 2012 identifies risks related to geographic and climatic conditions:

“Abnormally low winter temperatures in a number of northern regions may complicate operations of the Company’s oil production enterprises.

Low winter temperatures, as well as complicated ice and wave conditions in northern seas lead to increased risks affecting the safety of offshore exploration operations, which, in turn, may result in delays in project implementation.

Exports via Black Sea terminals to Mediterranean ports may be constrained by the throughput of the Bosphorus and by weather conditions (storm winds) in the Black Sea during the autumn.

Also, complicated ice conditions during the winter may lead to a suspension of operations of export terminals on the Baltic Sea and at De-Kastri.

An extended delay in the functioning of export terminals may have adverse effect on the Company’s operating performance and financial position” (Rosneft Sustainability Report, 2012: 24).

The risk related information in the report of the year 2012 can be considered satisfied as it clearly comprehends the risks related to the changes in the climate.

- **Governance Action: Sustainability report offers comprehensive, transparent presentation of company response measures**

OJSC Rosneft Oil Company publishes its sustainability reports on an annual basis. Below some examples of the air protection measures taken by Rosneft are given.

“In order to reduce pollutant emission from oil production operations, in 2008 the Company took measures in the following areas:

1. *increasing associated petroleum gas (APG) utilization rate by using it for Company own needs;*
2. *reconstruction of pressurized and low-pressure gas pipelines;*
3. *survey of gas pipeline sections by means of pit sampling, and their major repairs, when necessary;*
4. *adjustment of burners, boilers, furnaces, etc.;*
5. *repairing tanks, cleaning and painting them with*
6. *reflective paint;*
7. *air quality monitoring etc.*

In 2008, Rosneft oil & gas production subsidiaries took a number of actions aimed at increasing the APG utilization rate, including: increasing the use of APG for electricity generation; installation of gas-fired oil preheaters; using APG in oil treatment units; switching of heating systems of oilfield offices; and living quarters to APG” (Rosneft Sustainability Report, 2008: 58).

“In order to reduce their specific emissions, the oil production subsidiaries, in addition to improving APG recovery rate, implemented projects on major repairs and modernization of gas pipelines, converted boilers from oil to gas, adjusted burners and fuel equipment, and equipped tanks with pressure equalization and gas trapping systems, internal floating roofs, and valve disks. at the company’s refineries, emission reduction was achieved due to reconstruction and modernization of sulphuric acid and elementary sulphur production plants, conversion of process heaters from liquid fuel to natural gas, the installation of flare gas compressors, and replacement of the existing tanks with new ones, equipped with floating roofs” (Rosneft Sustainability Report, 2009: 82-83).

Rosneft does not pay too much attention to the climate change problem in particular, the mentioning of the words “climate change” or “greenhouse gas emissions” in the texts of the reports is quite poor.

Though Earnst and Young (CIS) B.V. acknowledges the information presented in the reports to be reliable and sufficient respectfully to sustainability policies, activities, events and performance and consistent with the principles and requirements of “A+” Application level of GRI G3.1 Guidelines, the information related to the climate change issues is considered by the auditor to be insufficient. Earnst and Young (CIS) B.V. in its Independent Assurance Reports on the Sustainability Reports of OJSC Oil Company Rosneft to the Management of OJSC Oil Company Rosneft concluded the following:

“The Report does not provide sufficient representation of Rosneft’s performance regarding greenhouse gas emission” (Rosneft Sustainability Report, 2009: 129; Rosneft Sustainability Report, 2010: 85; Rosneft Sustainability Report, 2012: 96).

The particular mentioning of greenhouse gas reduction measures is quite confined, there is the presentation of the measures related to the air protection and especially to the APG utilization that is a part of climate change mitigating measures regarding the production peculiarities of the industry studied.

For example, the Rosneft Sustainability Report 2010 gives a picture of measures performed across the subsidiaries to achieve the goals of the Gas program. The main objective of the program is to achieve a 95% rate of associated petroleum gas (APG) recovery across the Company (Rosneft Sustainability Report, 2010: 34-35).

However, the RUIE Non-Financial Reporting Council in its Findings of the Review of Rosneft later Sustainability Report 2011 reports on the lack of details regarding the APG recovery information: “As seen from the Report, Rosneft has set itself an objective to achieve a 95% associated petroleum gas recovery rate across the entire Company by 2014. The information about approaches and ways of achieving this objective could help demonstrate feasibility of the Company’s commitments. It is recommended to provide more practical details on this topic in future reports” (Rosneft Sustainability Report, 2011: 91-92).

Thus, giving the general conclusion the RUIE for the Purpose of Public Verification reports on the satisfactoriness of the information presented in the report in general:

“The Report presents detailed quantitative results of the Company’s environmental activities in 2009-2011, including target and actual values of key environmental performance indicators, among other data. Information about the use of a new methodology for greenhouse gas emissions inventory, which takes into account both direct and indirect emissions associated with the Company’s activities, is provided” (Rosneft Sustainability Report, 2011: 91-92).

Governance category: Emissions Accounting

- Governance Action: Company calculates and registers GHG emissions savings and offsets from projects

Not mentioned.

Governance Action: Company conducts annual inventory of GHG emissions from operations and publicly reports results

The company report the main indicators of environmental impact in the tables “Total pollutant emissions by sector”, “Total hazardous emissions by pollutant”, “Key HSE performance indicators”, “GHG emissions associated with operations of OJSC Rosneft Oil Company, 2011”, including air emissions kt, air emissions of NOx, SOx and other material pollutants, ths. tn in dynamics in section “Air protection” of Sustainability Reports (Rosneft Sustainability Report, 2008: 57,70; Rosneft Sustainability Report, 2009: 82; Rosneft Sustainability Report, 2010: 90; Rosneft Sustainability Report, 2011: 26-30; Rosneft Sustainability Report, 2012: 96).

“The increase in the Rosneft’s oil production in 2009 resulted in increased total emissions across the company as a whole, since the oil production sector has accounted for the bulk of the total emissions from the company’s operations (83% in 2009). At the same time specific emissions in oil production (per tonne of oil produced) decreased by 3.5% in the refining and petrochemical sector, where the output increased insignificantly, both total and specific emissions decreased (by 3.5 and 4.5% respectively)” (Rosneft Sustainability Report, 2009: 82).

The great attention is paid to the APG recovery rate and measures taken and results achieved in this direction.

“In 2011, the APG recovery rate across the Company decreased from 56.2% in 2010 to 53.7%. It is expected that the decline will continue in 2012, the planned value for which is 48.6 %. This reflects the fact that the output of the Vankor field has been growing, while the respective gas transportation infrastructure has not been completed yet. In 2013, the recovery rate should increase dramatically, with the average annual value being 84%; the 95% target will be achieved in 2014. Without the Vankor field, the APG recovery rate across the Company currently amounts to 74%” (Rosneft Sustainability Report, 2011: 27).

Governance Action: Company has set an emissions baseline by which to gauge future GHG emissions trends

“In order to meet its objectives with regard to reduction of adverse environmental impacts, the company implements a number of targeted corporate programs, including The Environmental program, The Gas program, and The Pipeline Reliability Improvement program” (Rosneft Sustainability Report, 2009: 74-75).

The tables “HSE objectives of Rosneft for the period till 2020, target and actual values of key indicators” and “Quantitative Environmental Performance Indicators” present the key environmental indicators with actual and target values including “Associated petroleum gas recovery rate*, %”, “Specific SO2 emission per tonne of product from the company’s operations, kg/tonne”, “Specific NOx emission per tonne of product from the company’s operations, kg/tonne” detailed to production segments (Rosneft Sustainability Report, 2009: 74-75; Rosneft Sustainability Report, 2011: 28).

√ Governance Action: Company has third party verification process for GHG emissions data

“The emission reductions achieved by the Company are monitored; the results are verified by independent entities accredited by the UNFCCC Joint implementation Committee” (Rosneft Sustainability Report, 2010: 41).

The reports are being audited by the *Ernst & Young (CIS) B.V.*, the RUIE Non Financial Reporting Council also gives comments and recommendations on the Rosneft Sustainability Report 2011 for the Purpose of Public Verification (Rosneft Sustainability Report 2008, Rosneft Sustainability Report 2011: 88-91; Rosneft Sustainability Report, 2012: 96).

They assess reports against the GRI G3 guidelines and the sustainability reporting principles of Rosneft as set out in sections ‘about the report’ in Rosneft reports. The auditor comes with the next conclusions:

“Nothing has come to our attention that causes us to believe that the environmental and health & safety data have not been collated properly from information reported at subsidiary level” (Rosneft Sustainability Report, 2008: 108).

“Nothing has come to our attention that causes us to believe that the information in the Report, in all material aspects does not provide reliable and sufficient representation of sustainability policies, activities, events and per-formance of Rosneft during 2009 in accordance with DRI G3 guidelines and sustainability reporting principles of Rosneft” (Rosneft Sustainability Report, 2009: 129).

“Nothing has come to our attention that causes us to believe that the Report does not meet the requirements of “A+” application level of GRI G3.0 guidelines” (Rosneft Sustainability Report 2010: 85).

“Nothing has come to our attention that causes us to believe that the information in the Report, in all material aspects does not provide reliable and sufficient representation of sustainability policies, activities, events and per-formance of Rosneft during 2011 in accordance with DRI G3 guidelines and sustainability reporting principles of Rosneft” (Rosneft Sustainability Report, 2011: 87).

“The information in the Report is, in all material respects, a reliable and sufficient representation of sustainability policies, activities, events and performance of Rosneft for the year ended December 31, 2011” (Rosneft Sustainability Report, 2012: 96).

Governance category: Emissions Management & Strategic Opportunities

- Governance Action: Company sets absolute GHG emission reduction targets for facilities and products

Not mentioned.

- Governance Action: Company participates in GHG trading programs to gain experience and maximize credits.

Not mentioned.

- Governance Action: Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks, and maximize opportunities from changing market forces and emerging controls

“Rosneft views sustainable development as a system of consistent economic, environmental and social actions implemented on the basis of ongoing stakeholder engagement and aimed at long-term improvement of Company image and business reputation, as well as increase in its competitiveness and market capitalization” (Rosneft Sustainability Report 2008, 29).

“The company acknowledges air pollution (air contaminant and greenhouse emissions among key environmental impacts and key sustainability factors”²⁹

The section “Strategic priorities of Rosneft” lists the strategic dimensions of the company, among which are sustainable growth.

Sustainable growth comprises the following: “increasing shareholder value; strategic planning based on reasonable assumptions; efficient growth of production levels; development of downstream capacities in accordance with market demands; efficient use of feedstock and producing high-quality outputs; development of the corporate risk management system” (Rosneft Sustainability Report 2010, 17).

However, no any articulations of climate change issues or environmental issues mentioned across the section.

The company declares its intention to decrease the air pollution in its latest reports, while in the early reports only the APG reduction targets were performed.

²⁹ <http://www.rosneft.com/Development/factors/>

“Rosneft Sustainability Report 2009 articulates Objectives for 2012-2014: reducing specific pollutant emissions, the amount of accumulated oil-contaminated waste, the accident rate, and the area of contaminated lands; achieving a 95% rate of associated petroleum gas recovery across the company” (Rosneft Sustainability Report 2009, 26).

“Rosneft Sustainability Report 2010 presented the Objectives set by the company for 2012–2014, among them are reduction of specific pollutant emissions, the amount of accumulated oil-contaminated waste, the accident rate, and the area of contaminated lands which are the part of the Health, Safety, and Environment section” (Rosneft Sustainability Report 2010, 91).

The presentation of climate change mitigation policies or even mentioning of the greenhouse gas emissions measures or targets is quite confined or even missed at all. Even more so regarding the formulation and realization of the strategy toward the GHG emissions reduction and deriving opportunities and avoiding risks of climate change.

The information presented in the reports related to current governance section and briefly stated above can be considered as non-sufficient to fulfill this section and earn the mark. Rosneft in its official reports cannot be assessed as the company that clearly states the strategy towards climate change and pay adequate attention to the risks and opportunities connected with the climate change.

Total: 8 out of 14

LUKOIL

Governance category : Board oversight



Governance Action: Board committee has explicit oversight responsibility for environmental affairs

“The objectives of the Health, Safety and Environment Policy implemented by the Open Joint Stock Company “Oil Company LUKOIL” in the twenty-first century are to:

- increase petroleum gas utilization rate through expansion of gas-processing and power-producing capacities;
- comply with greenhouse gas reduction provisions of the Kyoto Protocol”

To achieve the above-specified goals, OAO LUKOIL commits to the following:

...

exercise control over compliance with the obligations assumed by the Company as part of the Policy.

The Health, Safety and Environment policy is approved by the Resolution of OAO LUKOIL Management Committee. LUKOIL acknowledges its responsibility to society for rational use of natural resources and preservation of the environment. The Company therefore observes the highest standards of care for the environment and of industrial safety in its operations³⁰.



Governance Action: Board conducts periodic review of climate change and monitors progress in implementing strategies

Also see category “Company conducts annual inventory of GHG emissions from operations and publicly reports results”

“Three projects of OAO RITEK focusing on utilization of APG in the West Siberian fields. The designed reduction of emissions under the foregoing projects is about 800 ths tn of CO2 equivalent over a period of 2008-2012;

- project «Upgrading of Process Tube Furnaces of OOO LUKOIL-Permnefteorgsintez». The designed reduction of emissions under the project is about 833 ths tn of CO2 equivalent over a period of 2008-2012.

The overall reduction of APG emissions under LUKOIL Group’s projects that are currently under way is estimated to total 3,356 ths tn of CO2 equivalent” (Lukoil Sustainability report, 2009-2010: 49).

Table “Production and Utilization of APG in Russia, mln cu. m (2005-2010)” (Sustainability report 2009-2010: 48).

Governance category: Management execution



Governance Action: Chairman/CEO clearly articulates company’s views on climate

³⁰ http://www.lukoil.com/static_6_5id_267_.html

change and GHG control measures

“Throughout our history we have always been establishing ourselves as a Company that is committed to the philosophy of sustainable development. The issues of energy efficiency, **preventing an environmental impact** and the impact on human life and health are of top priority for us” (Vagit Alekperov, President and CEO of LUKOIL, Lukoil Sustainability report, 2007–2008: 3).

“As a socially responsible company, LUKOIL admits the importance of activities aimed at prevention of global climate change. Economic mechanisms of the Kyoto Protocol provide an opportunity to book the reduction of greenhouse emissions (emission reduction units –ERUs) achieved in the course of operations and sell them on the international carbon market” (Lukoil Sustainability report, 2011-2012: 15).

“Over the last two years, we managed to tackle a range of important challenges. First of all, we stabilized oil production in Western Siberia. We are gradually moving towards 95% utilization of associated petroleum gas (APG) at all our fields” (Vagit Alekperov, President and CEO of LUKOIL, Lukoil Sustainability Report, 2011–2012: 2).

No any clear articulation of CC issues by CEO found, but the articulation of the problem in general expressed throughout the company’s official information can be assessed as ample and comprehensive.



Governance Action: Executive officers are in key positions to monitor climate change and coordinate response strategies

“The Management Committee of LUKOIL annually reviews and approves the report on the HSE status, which serves as the analysis procedure approved by the Company's management. In view of the results of its consideration decisions are made on corrective and preventive measures; the submitted data are also taken into consideration when adopting the development Strategy of the LUKOIL Group and respective investment programs” (Lukoil Sustainability Report, 2009-2010: 51).



Governance Action: Execution Executive officers’ compensation is linked to attainment of environmental goals and GHG targets

Not mentioned.

Governance category: Public Disclosure



Governance Action: Securities filings identify material risks

“The key HSE risks are connected with imposition of new requirements in this field in the Russian law. The risk of non-compliance of the operations with environmental standards in some regions of the Company’s presence may require additional expenses associated with upgrading the operations. Realization of process-related risks connected with operational equipment outages may result in downtimes and failure to achieve the production and financial targets” (Lukoil Sustainability Report, 2011–2012: 17).

No any direct evidences found.



Governance Action: Sustainability report offers comprehensive, transparent presentation of company response measures

“We regard non-financial reporting as one of the most critical managerial processes that help boost our management performance. It is also a way for the company to demonstrate its openness and express its views on sustainable development” (Vagit Alekperov, President and CEO of LUKOIL, Lukoil Sustainability Report, 2009–2010: 4)

“Main environmental actions by LUKOIL Group organizations in 2012 are presented in the following table³¹:

Reduction of atmospheric pollutant emissions

- Modernization and construction of facilities to increase the rate of utilization of associated gas.
- Modernization and construction of new, more efficient combined-cycle turbines at generating facilities.
- Replacement of equipment for the reduction of pollutant emissions: replacement of lateral seals, modernization and replacement of furnaces, replacement of pumping equipment.
- Better use of technologies: timely regulation of combustion in furnaces, boilers, etc.

LUKOIL utilizes associated gas for power generation at gas-fired plants, as a working agent to maintain formation pressure during injection, and for other production needs. Commercial associated gas is supplied to gas processing plants and local consumers.

In order to increase the utilization level of associated petroleum gas, LUKOIL constructs gas-fired power plants at its fields as part of a small-scale power generation program. It allows the company to reduce its gas flaring volumes, cut electric power costs, lower emissions of gas-combustion products into the atmosphere, and improve environmental conditions at the oil production sites. As part

³¹ http://www.lukoil.com/static_6_5id_268_.html

of LUKOIL's Associated Petroleum Gas Efficient Utilization Program, RUR 9.7 billion was allocated to the construction and reconstruction of utilization facilities for associated petroleum gas in 2012. The associated gas utilization level at major West Siberian fields of LUKOIL Group reaches 95%³².

Governance category: Emissions Accounting

- Governance Action: Company calculates and registers GHG emissions savings and offsets from projects

“Following the inventory of greenhouse emissions, evaluation of carbon potential, preparation and determination of carbon design documents, the Company developed a portfolio of projects for reduction of greenhouse emissions in the LUKOIL Group. The LUKOIL Group's carbon portfolio includes 14 Russian projects whose implementation helped reduce emissions by 32 mln. tn during the first stage of the Kyoto Protocol obligations from 2008 to 2012” (Lukoil Sustainability Report, 2011–2012: 13).

- Governance Action: Company conducts annual inventory of GHG emissions from operations and publicly reports results

The company reports the main indicators of environmental impact, including air emissions thousand tones, air emissions of NO_x, SO_x and other material pollutants, ths. tn in dynamics in section Industrial safety and environmental Protection of Analyst Databook and in sustainability reports (Lukoil Analyst Databook, 2012: 65; Lukoil Sustainability Report, 2011–2012: 19).

- Governance Action: Company has set an emissions baseline by which to gauge future GHG emissions trends

“The key focus areas of reducing greenhouse emissions are as follows:

- reduce greenhouse emissions caused by flaring associated petroleum gas (over 3 mln tn of CO₂ per year);
- reduce greenhouse emissions caused by process losses (over 3 mln tn CO₂ per year);
- reduce indirect emissions caused by purchasing heat and power (over 8 mln tn CO₂ per year)” (Lukoil Sustainability Report, 2007–2008: 37).

- Governance Action: Company has third party verification process for GHG emissions data

“Every year the Company performs internal audits of the management system in structural subdivisions and LUKOIL Group Organizations; also external supervisory audits are performed by audit firms on a regular basis” (Lukoil Sustainability Report, 2011–2012: 16).

“The Council for Non-Financial Reporting of the Russian Union of Industrialists and Entrepreneurs, established in accordance with decision of the Management Committee (Decree of June 28, 2007), reviewed the 2011–2012 Report on Sustainable Development in Russia at LUKOIL's initiative. The company applied to the Russian Union of Industrialists and Entrepreneurs requesting for public verification by the Council, which forms a conclusion of completeness and relevance of the information contained in the Company's Sustainability Report from the perspective of the Social Charter of Russian Business, containing the principles of business practice responsibility” (Lukoil Sustainability Report, 2011–2012: 93).

The Lukoil Group a member of the UN's Global Compact network in Russia and Social Charter of Russian business.

No direct evidences of GHG emissions process verification found. But indirectly we can assume that the process for GHG emissions data is verified as a part of the whole environmental management system.

Governance category: Emissions Management & Strategic Opportunities

- Governance Action: Company sets absolute GHG emission reduction targets for facilities and products

“The key focus areas of reducing greenhouse emissions are as follows:

- reduce greenhouse emissions caused by flaring associated petroleum gas (over 3 mln tn of CO₂ per year);

³² Utilization of Associated Petroleum Gas, http://www.lukoil.com/static_6_5id_2259_.html

- reduce greenhouse emissions caused by process losses (over 3 mln tn CO₂ per year);
- reduce indirect emissions caused by purchasing heat and power (over 8 mln tn CO₂ per year).

2009-2013 Environmental Safety Program extends the achievements of the previous Environmental Safety Program and sets new goals in line with the new Health, Safety and Environment Policy. The Program includes 483 activities with a total investment of RUR 58.7 bln which is almost twice as much as the cost of the 2004-2008 Program.

These are the expected end products of the Program:

...

- reducing air emissions by 277.2 ths tn.” (Lukoil Sustainability Report, 2007-2008: 36)



Governance Action: Company participates in GHG trading programs to gain experience and maximize credits.

“The total emission reduction achieved through these three projects within the mandatory deadline established by the Kyoto Protocol comes to about 6.7 mln tn of CO₂ equivalent. The company is planning to sell this carbon asset on the hydrocarbon market at the current price of greenhouse emission reduction units” (Lukoil Sustainability Report, 2007-2008: 37).

“We believe that trading in green gas emissions quotas is an efficient tool of providing economic benefits to investors willing to invest in this field. Additional revenue from sales of emissions reduction units may be used to upgrade production facilities and solve environmental issues. As of 02.01.2013 out of all the secured emission reduction units the Company was able to sell 919 ths. tn which generated the total of EUR 2.3 mln. revenues

We now have some unsold ERUs generated by already approved projects. Company’s six largest projects have been rejected by the Russian Ministry of Economic Development, which prevented from selling 26 mln. ERUs under the agreements signed with the prospective buyer” (Lukoil Sustainability Report, 2011-2012: 13).



Governance Action: Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks, and maximize opportunities from changing market forces and emerging controls

“Measures aimed at preventing climate change were included into the corporate policy as a critical aspect of sustainable development.

We have set out two large practical goals to prevent climate change:

- reduce greenhouse emissions;
- generate profits from selling emission reduction units (ERU) on hydrocarbon markets” (Sustainability report, 2007-2008, 36).

“Nowadays, the Company considers the following three trends in the environmental safety sphere to be priorities in view of the strategic objective for achieving the level of the best global oil & gas companies, as well as the scheduled changes in the Russian legislation:

- bringing the level of associated petroleum gas utilization to 95% by 2012, including through increased recycling, as well as participation in the mechanisms of the Kyoto Protocol;
- increase in the production of environmentally friendly fuel that meets EURO-4 and EURO-5 European standards” (Lukoil Sustainability Report, 2009-2010: 53).

“Starting from 2005 the Company has been actively managing greenhouse emissions based on its own voluntary initiative. The urgency of such effort for the Company is conditioned by the following factors:

- In the course of its operations the Company generates significant greenhouse emissions;
- Application of traditional emission reduction mechanisms would involve major costs for the Company, and is extremely unprofitable;
- The world, including Russia, has already legal, organizational and technical conditions for application of environmental economic mechanisms to regulate greenhouse emissions.

For these purposes the Company has developed and approved the Concept of Operations Planning across LUKOIL Group organizations based on the provisions of the Kyoto Protocol, and the Comprehensive Action Plan aimed at implementing the Concept.

After conducting an inventory of greenhouse emissions, assessment of carbon potential, preparation and determination of carbon design documents, the Company developed a portfolio of greenhouse emission reduction projects in the LUKOIL Group.

The carbon portfolio of the LUKOIL Group includes 14 Russian projects aimed at the reduction of greenhouse emissions in the upstream, downstream and power engineering business sectors. Their implementation helped reduce greenhouse emissions by 32 mln tn over the first commitment period under the Kyoto Protocol from 2008 till 2012.

Should this effort be a success, the ultimate goal could be to generate revenues by selling emission reduction units and to further reinvest the generated funds into new environmental and energy efficiency projects”³³.

Total: 12 out of 14

SURGUTNEFTEGAS

Governance category : Board oversight

- Governance Action: Board committee has explicit oversight responsibility for environmental affairs

“Environmental protection, at that time, has become one of the priorities in the Company’s operations. The Company seeks methods of achieving the environmental safety of production, prevention and reduction of damage to the environment caused by the accidents. At that time Surgutneftegas already purchased a new equipment complex designed to localize and liquidate oil spills both on rivers and marshes” (Surgutneftegaz environmental report, 2012: 4).

“Environmental sustainability is a burning issue for Surgutneftegas as an oil operator” (Surgutneftegaz environmental report, 2011: 2).

Governance category: Management execution

- Governance Action: Chairman/CEO clearly articulates company’s views on climate change and GHG control measures

“For Russia the last year was marked by the very important and significant decision – with a view to ensuring the right of each person for a healthy environment – the year 2013 was announced an Environment Protection Year by the Edict of the President of the Russian Federation. Environmental protection for us for us – one of the biggest oil & gas companies in Russia – it is connected first of all with ensuring environmental security and rational use of natural resources” (Surgutneftegaz environmental report, 2012: 2).

- Governance Action: Executive officers are in key positions to monitor climate change and coordinate response strategies

“The Company’s environmental policy defines ecological well-being as the foundation of business prosperity. In the course of its everyday activity the Company applies its principles practically, including continuous enhancement of environmental activity, rational use of natural resources, mitigation of emissions of pollutants and their toxicity” (Surgutneftegaz environmental report, 2012: 8).

Governance category: Public Disclosure

- Governance Action: Sustainability report offers comprehensive, transparent presentation of company response measures.

Surgutneftegaz does not publish sustainability reports.

Governance category: Emissions Accounting

- Governance Action: Company conducts annual inventory of GHG emissions from operations and publicly reports results

“Lower air polluting emissions by more than 2,760,000 tonnes, including 225,000 tonnes of greenhouse gas methane a year (which amounted to 4,610,000 tonnes a year in CO2 equivalent)” (Surgutneftegaz environmental report, 2012: 16).

³³ Implementing the Kyoto Protocol, http://www.lukoil.com/static_6_5id_2253_.html

Governance category: Emissions Management & Strategic Opportunities



Governance Action: Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks, and maximize opportunities from changing market forces and emerging controls

“Environmental investments allow us to commission new environmental facilities in Western and Eastern Siberia, mitigate hazardous emissions and discharges, increase the proportion of recoverable wastes and the recyclability rate as well as remain the industry leader in terms of efficient utilization of associated petroleum gas and development of small-scale power generation” (Surgutneftegaz environmental report, 2012: 2).

“Technological innovations which contribute to the efficient business without any damage to the environment” (Surgutneftegaz environmental report, 2012: 2).

“Efficient neutralization is the top-priority objective of the Company in managing oil sludge classified as Environmental Hazard Class III. In the reporting year, Surgutneftegas neutralized 27,000 tonnes of oily wastes” (Surgutneftegaz environmental report, 2012: 20).

“For a few years now, Surgutneftegas has been the industry leader in terms of ApG utilization. Since 1999, the Company has been successfully constructing gas turbine power plants (GTPP) and gas piston power plants (GPPP) and revamping compressor stations with replacement of power drives with gas turbines. Therefore, the use of such valuable resource as ApG for in-house power generation allows us to almost completely avoid gas wastage and atmospheric pollution. All these measures help us considerably reduce inevitable negative environmental and man-made impact derived from “traditional” approach to associated gas utilization because we no longer build many kilometers of gas pipelines at fields under development to carry gas to treatment and processing sites, and we said no to compressor stations, high-voltage transmission lines, and substations. The significant resource-saving benefit received by the Company from such sustainable APG use provides considerable reserves saving for gas and electric power transportation to customers, i.e. oil production facilities” (Surgutneftegaz environmental report, 2012: 12).

“Years of experience and professionalism of the Company’s staff, a powerful arsenal of modern facilities and technological solutions, scientific research and operational excellence contribute to the success of the Company”. One of the main principles regards “uses natural resources rationally, orderly and consistently solves the problems of ecological safety of production, guided by the principles of sustainable development” (Surgutneftegas annual report, 2012: 11).

“Application of innovative technology in all production processes is a key principle and a major competitive advantage of OJSC “Surgutneftegas”. The Company’s innovative and technical potential based on acquisition, creation and introduction of new technology allows to boost efficiency of production processes, reduce costs, improve products quality, and minimize environmental risks” (Surgutneftegas annual report, 2012: 68).

“As part of its Ecology program, Surgutneftegas carries out a number of environmental actions including construction of nature protection facilities, maintaining of environmental safety at production facilities, air and water protection, land rehabilitation, environment and facilities monitoring, research and development. In 2012, the Company’s investments in environmental program totaled RUB 23.4 billion, including RUB 20.9 billion and RUB 2.5 billion spent in the upstream and downstream sectors, correspondingly” (Surgutneftegas annual report, 2012: 76).

Total: 5 out of 14

GAZPROM

Governance category : Board oversight



Governance Action: Board committee has explicit oversight responsibility for environmental affairs

“In 2012 the Board of Directors put on its agenda the issues of the Environmental Policy of OAO Gazprom and its subsidiaries, procedures of applying volunteer mechanisms of the OAO Gazprom environmental responsibility” (Gazprom environmental report 2012: leadership and efficiency, 8).

“Strategic environmental protection issues are referred to the authority of the OAO Gazprom Board of Directors” (Gazprom sustainability report, 2008-2009: 56).



Governance Action: Board conducts periodic review of climate change and monitors progress in implementing strategies

“Compared to the year of 2010 the following targets were achieved:

methane emissions reduction – 8 %;
lowering of the payment for exceeding the allowed environmental impact – 34 %;
nitrogen oxides emissions in gas transport per unit – unchanged” (Gazprom environmental report, 2011:10).

Governance category: Management execution



Governance Action: Chairman/CEO clearly articulates company’s views on climate change and GHG control measures

“Climate change is one the major challenges of our time, and global corporations, especially energy companies, must be, with all the opportunities they have, in the forefront of this battle. There is a direct correlation between sustainable growth of our Company and new ways of using natural resources and preserving the environment for future generations”. Alexey Miller, Chairman of OAO Gazprom Management Committee (Gazprom sustainability report, 2008-2009: 66).



Governance Action: Executive officers are in key positions to monitor climate change and coordinate response strategies

“The complex management of the environmental protection is performed by the Coordination Committee of OAO Gazprom for environmental protection and energy efficiency. The Coordination Committee membership includes the majority of the OAO Gazprom Management Committee and heads of the Gazprom profile departments. The protocol decisions generated by the Committee are the basis for the company’s decision-makers in environmental protection, energy saving and energy efficiency” (Gazprom environmental report 2012: leadership and efficiency: 8).



Governance Action: Execution Executive officers’ compensation is linked to attainment of environmental goals and GHG targets

Not mentioned.

Governance category: Public Disclosure



Governance Action: Securities filings identify material risks

“The Company’s Environmental Policy recognizes the importance of the climate change problem and undertakes to make best efforts to preserve climate conditions. OAO Gazprom considers business, legal, physical, infrastructure and social risks that arise from possible consequences of climate change.

Geographic and climate risks

- Climate change directly affects Gazprom Group sustainability performance and brings the risks of higher frequency of extreme weather conditions, changes in ground temperature, unfavorable human health impact, etc.
- Developing and introducing effective technological processes designed to operate in critical weather conditions
- Developing programs for adapting Gazprom operations to changing climate conditions (Gazprom sustainability report, 2008-2009, 56).

“Identified infrastructure risks are associated with: buildings and installations damage; a bigger number of defects in the pipeline system; shorter periods of winter roads use; water and sewage systems deformation and, consequently, higher construction and repair & recovery costs.

“The above infrastructure risks can potentially arise as a result of changes in the seasonal thaw depth in permafrost terrain, high sensitivity of frozen soils with high salt concentration to temperature variations and an increase in the number and strength of dangerous hydro meteorological phenomena” (Gazprom sustainability report, 2008-2009: 66).



Governance Action: Sustainability report offers comprehensive, transparent presentation of company response measures

“Given the ambiguity of climate change issues and variety of response measures which could be taken the current criteria was assessed in the light of CC mitigation research activities taken by the Gazprom Group, among them:

Participation in activities of international organizations.(Ex: In 2011 within the preparation for the World Gas Congress to be held in Malaysia in 2012 (Kuala Lumpur), OAO Gazprom took a great part in developing an industrial guideline “Reduction of greenhouse gas emissions”, which contain the best practices for the entire gas production chain.

The OAO Gazprom international cooperation with foreign companies within scientific and technical programs (Ex: In 2011 the technical dialogue “Optimization of compressor station operations reducing fuel gas losses and emissions”).

The technical dialogue with E.ON Ruhrgas on “Methods of assessment, control and reducing CO2 emissions at production and transmissions facilities”

The project “Capitalizing on methane capturing in the Russian gas sector: economic and environmental benefits” implemented by Gazprom within the grant issued by the US Environmental Protection” (Gazprom Environmental report, 2011: 21-22).

Nevertheless, all the information stated above cannot be considered sufficient to be awarded a checkmark. Throughout the reports Gazprom did not presented any clear articulation of measures taken to mitigate CC.

Governance category: Emissions Accounting

Governance Action: Company calculates and registers GHG emissions savings and offsets from projects

Not mentioned.

Governance Action: Company conducts annual inventory of GHG emissions from operations and publicly reports results

“Gazprom Group reported its impact on air in kilotons including major pollutants (carbon oxide, nitrogen oxides, sulfur dioxide, hydrocarbons (including methane) and dynamics of pollutant emissions in 2008–2012” (Gazprom environmental report 2012: leadership and efficiency: 14).

“Gazprom VNIIGAZ conducts greenhouse gas emissions monitoring at Gazprom’s facilities”³⁴

“In 2012 OAO Gazprom amounted to 123.8 million tons of CO2-equivalent, which was 9.5 million tons (7 %) lower than in 2011. The reduction resulted from a decrease in gas consumption on compression due to a lower gas extraction (479 billion m3— in 2012, 513 billion m3— in 2011) and a lower pipeline throughput capacity rate (1,577 trillion m3 •km — in 2012, 1,623 trillion m3 •km — in 2011), as well as due to implemented measures under the Program of Energy Saving in OAO Gazprom in 2011—2013 (Gazprom environmental report 2012: leadership and efficiency: 16).

“To provide reliable disclosures on Gazprom Group’s operations and management approach to the stakeholders, the Company uses tools such as annual reports, sustainability reports, environmental reports, fact books (e.g. Gazprom in Figures), press releases, special-purpose press conferences and briefings, and also publishes management analysis and evaluation of financial position and performance” (Gazprom sustainability report, 2008-2009: 29).

“The long-term strategic objectives in the environmental protection area established by the Environmental Policy include: ... availability of Gazprom environmental information and transparency of environmental protection decisions” (Gazprom sustainability report, 2008-2009: 58).

“In pursuance of Environmental Policy obligations, Gazprom provides free public access to environmental information” (Gazprom sustainability report, 2008-2009: 59).

Governance Action: Company has set an emissions baseline by which to gauge future GHG emissions trends

Not mentioned.

Governance Action: Company has third party verification process for GHG emissions data

“In order to ensure the company’s volunteer environmental responsibility OAO Gazprom has deployed an Environmental Inspection and environmental expertise system, which includes regular audits of the EMS” (Gazprom environmental report 2012: leadership and efficiency: 8).

“In 2012 the supervisory audit of Det Norske Veritas validated the conformity of the OAO Gazprom environmental management system with the requirements of the international standard ISO 14001:2004” (Gazprom environmental report 2012: leadership and efficiency: 9).

“The sustainability reports are made in accordance with the GRI application level B (self-declaration)” (Gazprom sustainability report, 2008-2009: 8).

No direct evidences of GHG emissions process verification found. But indirectly we can assume that the process for GHG emissions data is verified as a part of the whole environmental management system.

³⁴ <http://www.gazprom.com/nature/kioto/>

Governance category: Emissions Management & Strategic Opportunities



Governance Action: Company sets absolute GHG emission reduction targets for facilities and products

“Corporate environmental target - Methane emissions reduction, reduction of per-unit emissions of nitrogen oxides” (Gazprom environmental report 2012: leadership and efficiency: 10).

“On the basis of the Cooperation Agreement between the Federal Service for Hydrometeorology and Environmental Monitoring, representatives of OAO Gazprom took part in the work of international bodies of the United Nations Framework Convention on Climate Change (UNFCCC). The OAO Gazprom greenhouse gas emissions mitigation measures provide for achievement of the emissions 15—25 % reduction target through 2020 against the 1990 level announced by the Russian Federation at the 15th session of the Conference of the Parties to the UNFCCC” (Gazprom environmental report 2012: leadership and efficiency: 16).



Governance Action: Company participates in GHG trading programs to gain experience and maximize credits.

Not mentioned.



Governance Action: Company pursues business strategies to reduce GHG emissions, minimize exposure to regulatory and physical risks, and maximize opportunities from changing market forces and emerging controls

“OAO Gazprom implements measures on efficiency improve in energy use and fuel energy resources saving, optimizes production operations, develops cooperation and takes advantage over partnerships, strives for attracting new investments into innovative technologies and advancing technological solutions. All in all it ensures the reduction of greenhouse gas emissions and provides for achievement of the national emissions target” (Gazprom environmental report 2012: leadership and efficiency: 16).

“Taking into account the national economy development scenarios as well as the provisions of Russia’s Energy Strategy to 2030 and the Climate and Environmental Doctrines of the Russian Federation, Gazprom intends to make its contribution to fulfilling the obligations of the Russian Federation to cut greenhouse gas emissions” (Gazprom sustainability report, 2008-2009: 66).

“Promoting innovation and increasing technological efficiency are among OAO Gazprom’s priority areas of activity.

Sustainable development of the oil & gas sector is a OAO Gazprom strategic objective. For this purpose, the Group invests considerable funds in research and development (R&D) and actively implements innovative technologies in its day-to-day operations, resulting in considerable economic effect” (Gazprom sustainability report, 2008-2009: 100).

“Since 1992 Gazprom Group has conducted numerous studies of major greenhouse gas emissions (carbon dioxide and methane) in the gas industry. The Company has identified the following priority directions: development of the corporate system of monitoring, accounting for the greenhouse gas emissions inventory, including methane, from all process and fugitive sources for OAO Gazprom at large and differentiated by subsidiaries, as well as the development of greenhouse gas emissions reduction measures” (The environmental report,2011: 21).

Total: 9 out of 14

Appendix B

Net proved oil & gas reserves/ production of Russian oil & gas companies as a percentage of Russian total reserves and total production, 2011

Company	Net proved gas reserves (billion cubic meters)	Net proved gas reserves (million cubic meters)	Net proved gas reserves (million cubic feet)	Net proved gas reserves (million barrel of oil equivalent)	Net proved gas reserves (million tones of oil equivalent)
	0	1	2	3	4
World	208411	208411215	7359000000	1226500	167325,9984
Russia	44600	44600000	1574826000	262471	35807,76366
Gazprom	34 119	34119000	1204741890	200790,315	27392,9392
Rosneft	566	566195	19992345,45	3332,057575	454,5779539
Lukoil	490	490600	17323086	2887,181	393,8854002
SNG	-	-	-	-	-
1	1000	1 billion cubic meters = 1000 million cubic meters			
2	35,31	1000 million cubic meters = 35310 million cubic feet			
3	6000	1 barrel of oil equivalent = 6000 cubic foot			
4	0,1364256	1 tones = 7,33 barrel of oil, 1 barrel of oil=0,136425 tones of oil			

Source: All data taken from individual company’s Annual and Sustainability Reports, 2011

Company	Gas production, (billion cubic meters)	Gas production, (million cubic meters)	Gas production, (million cubic feet)	Gas production, (million barrel of oil equivalent)	Gas production, (million tones of oil equivalent)
	0	1	2	3	4
World	3276	3276000	115675560	19279,26	2630,184613
Russia	607	607000	21433170	3572,195	487,3388462
Gazprom	464,355	464355	16396375,05	2732,729175	372,8142173
Rosneft	12,9	12900	455499	75,9165	10,35695406
Lukoil	15,782	15782	557262,42	92,87707	12,67081
Surgutneftegaz	12,9	12900	455499	75,9165	10,35695406
1	1000	1 billion cubic meters = 1000 million cubic meters			
2	35,31	1000 million cubic meters = 35310 million cubic feet			
3	6000	1 barrel of oil equivalent = 6000 cubic foot			
4	0,1364256	1 tones = 7,33 barrel of oil, 1 barrel of oil=0,136425 tones of oil			

Source: Note: All data taken from individual company’s Annual and Sustainability Reports, 2011