



# Masteroppgave

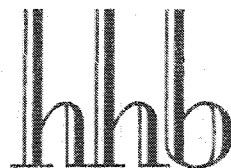
## Sustainable Management

**FE 306E 003**

**“How, why and to what extent are sustainability disclosures produced in the Norwegian O&G offshore supply companies?”**

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**May 2010**



Handelshøgskolen  
i Bodø

## **Acknowledgements**

This master thesis is a final part of a two-year Master of Science program at Bodø Graduate School of Business, Bodø University College, Bodø, Norway. This thesis is a research work of 30 credits within a field of sustainable management.

We would like to thank a lot our supervisor, Associate professor Anatoli Bourmistrov, for his constructive critique, valuable comments and support during writing the master thesis and through the whole study process.

We express our gratitude to Mrs. Tine Viveka Westerberg, representative of the Norwegian Shipowners' Association, who has provided us with a general introduction to the Association's activities in Norway and given us an opportunity to take part in the mentoring program in frames of the cooperation between Bodø University College and the NSA.

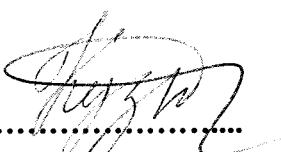
We are very grateful to Ms. Siri Skaar, our mentor and project manager at Acergy AS – the company-member of the NSA. She has made a general presentation of company's corporate activity and provided us with the contact persons in Acergy AS and Technip Norge AS, who are competent in the issues relevant for our research.

We are thankful personally to: Kristin Mykkanen, environmental advisor at Acergy; Johnny Edwardsen, HSE engineer at Acergy; Arne Berg, HSE advisor at Acergy; Maxim Ilyasov, project engineer at Acergy; Øyvind Loennechen, QHSES manager at Technip Norge; Evgeniy Manyukov, a QHSE engineer from Odfjell Drilling AS, for their support and the provision of detailed comments on the Norwegian offshore supply industry with regard to our problem.

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**28<sup>th</sup> of May, 2010**



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## **Abstract**

This research paper makes an attempt to find out the answers to questions of the extent, reasons and mechanisms of 'sustainability disclosures production in Norway within the O&G offshore supply companies, the cluster of the Norwegian Shipowners Association. The problem of sustainability disclosures and accountability of business seems interesting for the detailed exploration, taking into account the specific contextual peculiarities of the chosen industry. Nowadays the issues of sustainable management and the disclosure sustainability data on the special indicators are considered as quite new dimensions in the process of managing an industrial organization. The O&G industry and its offshore supply cluster in Norway have always been under the widespread attention of different interested groups of society; that is why the issue of sustainability disclosures as a tool to reduce uncertainties between business and society is worth being analyzed in-depth.

In order to answer the research question we have accomplished the following tasks. At first, we have represented the operationalization of the central concepts in our work – 'sustainability' and 'sustainability disclosures' from both theoretical and practical points of view. The task of defining the extent to which the Norwegian offshore supply companies produce sustainability disclosures has been carried out through a survey of the list of companies, which has shown the distribution of standards and guidelines applied to produce such disclosures basing on the commitment to the national and international legislation and the voluntary approaches. The tasks of reasons and mechanisms of sustainability disclosures have being done through the analysis of case studies of two offshore suppliers – Acergy and Technip Norge, which understand and disclose data on sustainability in their own different ways.

The results of our research have shown that the sustainability concept of sustainability is operationalized through the lens of 'project engineering' context of the O&G offshore supply operations. The main accent is made on the strategic objectives of quality, health, safety, environment and security within the engineering daily routines in the offshore. The motivation for the regular production of sustainability disclosures bases on the pressure of the most crucial stakeholder groups: the national government, clients, and the employees unions, every of which has the particular data expectations. The mechanisms of sustainability disclosures are characterized by the domination of internal procedural standards and the data disclosure only to particular stakeholders. The framework of international sustainability reporting standards application is represented weak in the offshore supply cluster, but has a potential for development.

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## List of abbreviations

CSD	Corporate Social Disclosure
CSR	Corporate Social Responsibility
EMAS	European Management and Audit Scheme
EMS	Environmental Management System
EU/EEC	European Union / European Economic Community
GHG	Greenhouse Gases
GRI	Global Reporting Initiative
ICAEW	International Chartered Accountants of England and Wales
IPIECA	International Petroleum Industry Environmental Conservation Association
IMO	International Maritime Organization
ISO	International Standards Organization
MNC	Multinational Corporations
NCS	Norwegian Continental Shelf
NPD	Norwegian Petroleum Direktoratet
NAA	Norwegian Accounting Act
NGO	Non-governmental Organization
NSA	Norwegian Shipowners Association
O&G	Oil & Gas Industry
OECD	Organization on Economic Cooperation and Development
OHSAS	Occupational Health, Safety and Security
QHSE	Quality, Health, Safety and Environment
SCM	Supply Chain Management
SD	Sustainable Development
SME	Small and Medium-sized Enterprises
SR	Sustainability Reporting
TBL	Triple Bottom Line
UN	United Nations
UN GC	United Nations Global Compact
WBCSD	World Business Council on Sustainable Development
WCED	World Commission on Economic Development
WSCSD	World Summit Council on Sustainable Development

# **Chapter 1. Introduction**

## **1.1 Background and relevancy**

Before specifying the details of our research problem it is necessary to reflect the background information about the topic and provide a reader with rationales and arguments why it does deserve the attention of society and business as well. In our research we have discussed such a new concept of 'sustainable development'. To be more specific we have made an attempt to carry out the extent, reasons and mechanisms of 'sustainability disclosures' production within the particular members of the Norwegian Shipowners' Association. Our special interest in the research has been related to several companies in the NSA's cluster – O&G offshore supply companies.

Nowadays sustainable development issue has become a subject of increased and widespread societal attention especially during the last two decades. Looking at the historical retrospective of 'sustainability' and 'sustainable development', these concepts are largely associated with the Brundtland Commission Report 'Our Common Future' in 1987 which formed a following well-known milestone: development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). The agenda of sustainability has been becoming more and more crucial since that time. An increasing focus on 'sustainability' term in different kinds of literature has recently been appeared; sustainability issues have become a major part of the sustainability accounting field as well. Since early 1990s there has been a growing trend by large corporations to publicly issue formal reports containing information on the corporation's environmental/social performance and/or sustainability reports (KPMG, 2005). In this case the role of business entities as it had been played in the global community before is no longer remained the same; the business responsibilities and organizational goals have changed over time. Milton Freedman's famous statements that the social responsibility of business is to seek profit has been recently replaced by the idea that companies also have environmental and social responsibilities. In the vision of Beasley and Evans (1978) every large corporation should be thought of as a social enterprise, i.e. an entity whose existence and decisions can be justified in so far as they serve public or social purposes.

The 'sustainability' research field has been sufficiently discussed the last decades. So, from the theoretical perspective, basing on the latest academic discussions, the important point of our work is the identification of how broad the phenomenon of sustainable development and its reporting are spread in the community and business structures.

The general interest to sustainable development today is also translated in the increasing pressure on business to undertake a more transparent approach towards their effort to minimize harmful behaviors (Steinholtz, 2003). In this case the research has been driven towards how a particular business dimension is approaching to sustainable development and embedding the production of corporate sustainability disclosures as a new institute, using the existing variety of managerial tools to register, collect, systematize and report data on economic, social and environmental impacts. The crucial reason of doing this is the identification of a gap between business vision of sustainability disclosures and the factual performance. It also deserves the exploration of how the particular companies do understand the phenomenon of sustainability and produce the disclosures of data on its three dimensions.

The essential interest arises to industrial sector which characterizes by a huge impact on society and the environment. It usually measures its activity by the conventional system of key performance indicators and seems to be accountable only to internal stakeholders (e.g. shareholders and analysts). With regard to this Ball and Milne (2005) state that the current indicators of success show that we are moving away from rather than towards a sustainable future. As they claim the profit measurement is not bad itself, but the predominant means by which it is generated and accumulated, and at what and whose expense, is bad.

However, the traditional view on business conduction still exists, causing damage to both society and environment. As we mentioned we has paid the attention to the participants of NSA and, particularly, to its O&G offshore supply cluster which impacts the environment, society, and economy both positively (economic contribution) and negatively (environmental emissions, discharges, accidents etc.). By this reason this particular business responds to the issues of corporate sustainability disclosures, increasing the transparency to engaged stakeholders as if a firm wants to be successful, sustainability disclosures practice should be part of a process of engagement, reporting and organizational change (Unerman et al., 2007).

It is interesting to analyze the extent, reasons and mechanisms of 'sustainability disclosures' production through the list of the O&G offshore supply cluster of the NSA. The particular attention has been paid to chosen offshore supply companies as a part of shipowners' business community which owns and operates vessels to provide service for the O&G industry. The rationale of doing the research bases on the assumption that O&G offshore supply operations are primarily business-to-business oriented and most of the time the vessels operates in the open sea, so the general public has few encounters with it compared to most land based businesses (Staalstrøm, 2005) due to the lack of pressure for sustainability disclosures. The second reason is

that maritime operations have traditionally maintained a low media profile, and when they occasionally draw some attention, it is usually due to some negative event, i.e. an oil spill. This has contributed to a growing concern within the shipowners as to what image they project to the public (Dahlsrud, 2001).

One more reason of studying sustainability disclosures is the raising tendency of its adoption worldwide by different companies and quantitative growth in the number of sustainability reports' publication during the past decade. The adoption of 'sustainability disclosures' practice includes the application of a number of international (or national and local) standards and guidelines which were designed to provide valuable perspective for reporting process.

Finally, the operationalization and interpretation of knowledge about sustainability, sustainability disclosures, its reasons and mechanisms seem a crucial issue for business community and for an enterprise that recognizes the importance of external sustainability disclosures to promote relevant, transparent and comparable data of non-financial performance. It is complicated to consider the whole amount of enterprises within a global industry throughout all possible contexts. In this case a definite country and a set of companies have been chosen for our research.

## **1.2 Problem topic**

In this section we consider the subject, scope and, of course, the context of sustainability disclosures. We see it reasonable to clarify the problem statement and study certain examples. In fact, a large amount of scientific studies concerning corporate accountability issues have been conducted during the last two decades. A number of researches have been produced in the sphere of non-financial, e.g. 'triple bottom line', environmental, CSR disclosures in the international or local contexts. In frames of our interest, previously there were produced two works in 2002 and 2004 related to the extent of CSR reporting in the 100 biggest Norwegian enterprises. However, there is very little knowledge regarding almost the same issue of sustainability disclosures within the enterprises engaged in the Norwegian O&G offshore supply sphere. By this reason we has researched the extent, reasons and mechanisms of sustainability disclosures via all the NSA participants and, particularly, the chosen companies involved in the Norwegian O&G offshore supply as they are shipowners. We consider that offshore supply companies produce environmental, social and economic impacts. By this reason the issues of sustainability reporting are crucial for this business dimension. Using the practical cases of O&G offshore sub-

contractors we feel that quite a new experience could be developed as there is a broad framework for in-depth investigation.

The context of Norway has not been chosen occasionally due to the special interest to the issue of sustainable development in this country. With the Norwegian Prime Minister, Gro Harlem Brundtland, as chair of the World Commission on Environment and Development (WCED), Norway became an early mover in politics for Sustainable Development (SD). The pursuit of SD goals has been expressed in several national policy documents, though it was not until 2002 that Norway adopted an explicit “National Strategy for Sustainable Development”. (Ruud, 2009) Norway played an active part in preparations for the World Summit on Sustainable Development in Johannesburg in autumn 2003, and now holds the chairmanship of the UN WCSD, which has a central role to play in following up the summit. Now this is followed up with a national action plan for sustainable development, Norway’s national Agenda 21, which also forms an important part of the National Budget. As Kjell Magne Bondevik, the former the former Norwegian Prime Minister stated: “Through the action plan, the Government wishes to ensure that sustainable development is given a permanent place on the political agenda. The Government considers important linking the sustainable development effort to central political processes and economic policy documents” (Norway’s action plan for SD, 2004). In 2007 the government adopted a revised SD Strategy. Thus, the current SD strategy provides primarily a profile of the government’s SD-relevant policies (Ruud, 2009).

Being proactive towards sustainable development, at the same time Norway is the world fifth largest exporter of hydrocarbons with exports amounting to nearly 2.5 million barrels per day and the second largest exporter of gas to Europe. The total recoverable petroleum resources on the Norwegian continental shelf (NCS) are estimated at approximately 13 billion standard cubic meters of oil equivalents, so main O&G operations are being executed in the offshore. (Norwegian Ministry of Petroleum and Energy, 2007) As the Minister of Petroleum and Energy, Åslaug Haga has stated: “oil and gas industry has a particular responsibility to contribute to developing technology to make it more environmentally friendly to produce oil and gas the world will be dependent on oil and gas for several decades to come, bring us from the fossil age to the renewable age, focus on energy efficiency and conservation” (Haga, 2008).

The international and Norwegian O&G drilling, extracting, servicing and other companies, which operate on the Norwegian continental shelf, have been adopting the concept of sustainable development, claim that their production and operation processes are sustainable and been producing the relevant sustainability reports which enhances their transparency to engaged

stakeholders. By the fact ‘sustainability disclosures’ practice has a voluntary basis companies embed this practice and disclose sustainability data applying different standards and techniques. However, there is a lack of unitary structure of sustainability disclosures, and it seems a problem. The particular interest is shown to extent, reasons and mechanisms of sustainability disclosures in the O&G offshore supply companies involved into the Association. Nevertheless, the extent of sustainability disclosures has been overviewed through all the companies listed in the NSA to understand the scope of issue clearer.

Starting up the conduction of our framework, it is necessary to state a clear definition of research problem. It is considered as the bottom line that gives an explanation of the research objective. In addition, there is a need to make a clarification of problem using a set of sub-headings for answering the adjoining questions. The research problem is taken from the wide theoretical topic of corporate accountability and shortened to the practical application of sustainability disclosures in the O&G offshore supply companies. Hence, the problem formulation sounds as following:

**“How, why and to what extent are sustainability disclosures produced in the Norwegian O&G offshore supply companies?”**

The identification of our master thesis’s departure point bases on the research problem which highlights the reasons (why?), mechanisms (how?) and the scope (to what extent?) of “sustainability disclosures” production in the Norwegian offshore supply companies for O&G industry.

### **1.3 Research limitations**

Our master thesis has the limitations to some extent. By the crucial reason of time limitation we haven’t been able to analyze the reasons and mechanisms of all the NSA companies. But we have studied quantitatively the extent of their corporate sustainability disclosures. There was a limited possibility to access interviewees which would be competent in the field of our research. As a result, the differences may lead to a subjective evaluation, understanding and solution of the research problem. In addition, the point of external audit of sustainability disclosures hasn’t been discussed in this paper, because the trustworthiness of data is not an issue for us. Also the quality of the sustainability data in the reports hasn’t been estimated.

## **1.4 Motivation for the research**

The decision to study companies-participants of the Norwegian Shipowners Association was made after we got in contact with its representative Tine Westerberg in the beginning of our study process at Bodø University College in 2008. At that time we were looking for mentors engaged in the maritime business, because we had a particular interest in doing a research within the maritime industry. Thus, a project manager of the Acergy AS Siri Skaar became our mentor. She was able to answer the specific questions, shared the relevant managerial experience, and provided us with the contact persons in Acergy and Technip. We were involved in that project as we believed it could be very useful for our future master thesis to gain some good primary data for our study and feel free to ask about possible future employment.

We have started thinking and collecting data quite early in the beginning of our second study semester as the topic is totally new for us as well as for Acergy AS. With regard to this fact we have decided to add in our research one more company Technip Norge AS where the problem was known, certainly, to different extent, but it may support us in the clarification of our research objective and production of reliable conclusions. The issue of 'sustainability disclosures' production as it has been mentioned is considered new in the Norwegian O&G offshore supply industry, so we are motivated to contribute adequate knowledge in the development of this dimension through the analysis of relevant theoretical and empirical data. The framework we have chosen is a wide and interesting, but, however, complicated as it is comprehended differently in the industry we currently explore. It needs to be properly discussed, and a number of aspects need to be extended and explained.

## **1.5 Target group**

This master thesis is our personal attempt to make a research of sustainability disclosures within a particular industry, though the results we have gained may be used by students studying business administration and sustainable management with the emphasis on the oil and gas offshore supply sector who are interested in the issues of corporate sustainability reporting. The aspects we have researched could be taken by enterprises into consideration when designing and communicating their sustainability reports. Also the research is directed at the O&G offshore supply companies currently involved in or intending to engage 'sustainability disclosures' practice. The information presented in the research may also be relevant to strategic managers, ethical analysts as well as relevant company's stakeholders.



## **1.6 Thesis outline plan**

The master thesis is divided into several chapters that, in their turn, are split into subchapters to provide more clarification for a reader. The first chapter is concerned with introductory part and specifies background and the relevancy of our research topic, problem statement and research sub-questions, the obvious limitations, the points that motivated us for the research, target group of the potential research users and, finally, the literature review with regard to relevant theories and secondary data.

The second chapter reflects the theoretical frame of reference according to the chosen problem. It concerns the issues of sustainability concept in general, sustainability disclosures, and the institutionalization of ‘sustainability disclosures’ production.

The third chapter is dedicated to the methodological framework of our research. It presents an overview of how this master thesis has been conducted. The chapter is concerned with methodology and considers the chosen philosophical position, research design and strategy, description of data collection methods’ types, reliability and validity of information collected, and strengths / weaknesses of the research design.

The fourth chapter relates to our empirical findings where we have presented the results of survey conducted and specified the ‘sustainability disclosures’ issues using the case studies of two offshore supply companies to make further in-depth analysis.

The fifth chapter comprises a set of discussion points where we make a comparison of our empirical findings with the theoretical assumptions. We have discussed the issue of ‘silence’ of the offshore supply industry in terms of sustainability disclosures. Then we have overviewed the domination of learning from procedural standards over the reporting standards; discussed the necessity of sustainability disclosures for the companies and their main stakeholders, and, finally, carried out the operationalization of ‘sustainability’ in the context of project engineering.

The sixth chapter provides a reader with the final conclusions according to the problem statement of our master thesis.

## **Chapter 2. Theoretical framework**

### **2.1 Understanding the ‘sustainability’ concept**

#### **2.1.1 Can we agree what the concept of ‘sustainability’ means?**

The contemporary agenda of sustainability and sustainable development has been becoming more and more crucial as it seems the central public policy goal of our times. Sustainable development is the only ‘big idea’ that provides the moral basis for grappling the twin challenges of achieving ecological and social sustainability (Porritt, J. in Unerman et al., 2007). Today, an extremely growing interest among academics in the issues of sustainable development, corporate sustainability accountancy and consequential decision-making, as reflected in the growing volume of literature, dedicated to these subjects. Despite this growing research and business profile of sustainable development, there is a lack of agreement in society about the way of moving forward, and there remain a number of barriers to the successful understanding and integration of sustainability into organizational processes (Accounting for Sustainability, 2006).

Looking into the historical retrospective of the concept creation and further development, the starting point for sustainability has been established in the concern for ecological security expressed by the 1972 United Nations Conference on the Human Environment. Afterwards it was the WCED conference of 1987 which has popularized the world known definition. Then the Rio Earth Summit in 1992 —the biggest intergovernmental conference the world had seen— was convened in Brazil by the United Nations Commission for Sustainable Development. That gathering was convened to seek ways to address the increasingly pressing exigencies of sustainability. The conference acted as an international wake-up call about the increasingly parlous state of the global natural environment and the alarming levels of destitution of many of the peoples of the world. That is, our ways of life - especially in the western developed nations - were extremely unsustainable. In the run-up to the Rio 2002 conference, which is to be held in Johannesburg in August and September of the year 2010, there is growing dismay that the indicators are continuing to worsen —the planet’s ability to sustain humans and non-humans continues to decline (Ball and Milne, 2002).

Nishijima (2009) states when it comes to the clarification of sustainability, there are a huge variety of opinions, approaches, methodologies and philosophies between researchers in different disciplines, and even among researchers within the same disciplines. Thus, the conventional idea of sustainable development and procurement has a great challenge of complexity, uncertainty and adequate understanding because the concept of ‘sustainability’ is

contested and ambiguous (Dixon and Fallon, 1989) and is expressed in its terms of essentially lack of clear direction, even though we see it in various governmental documents, hear it in mainstream media, read it in corporate reports and international agreements (Wright, 2002). Here the universally accepted definition is specified: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). On the one hand, there is not much disagreement on this universally accepted definition...however it is a tricky bit of work to understand how this gets into practice (Buhr, N. in Unerman et al., 2007) and few are not able to agree with criterion (Wright, 2002).

So, what is the way forward for sustainability meanings? Before business entities can start applying sustainable solutions into their routine processes, they have to get a clarification of what it would mean to conduct a sustainable business. The mentioned above and the most quoted Brundtland definition stands on three main pillars: the *economic sustainability*, the *environmental sustainability* and the *social sustainability* which have to be achieved concurrently and integrating the participation in each stream (WCED, 1987). In the international environmental context, the idea of sustainability is based on the notion that planetary resources are finite, a highly contentious assertion in itself. But essentially, since 50s-60s a number of mutually reinforced intentional initiatives have been united with the need to promote a global understanding of environmental issues and address the biosphere conservation (Khan, 2008). The pillar of economic sustainability requires the implementation of cost-effective and economic feasible technologies and the provision of economic growth to local communities. And the idea of social sustainability implies the creation of new working places, the presentation of work safety, the prevention of accidents and work fatalities, finally, the achievement of social progress and justice (Moloney et al., 2008). In general, the concept seems full of complexity, as Norgaard (1988) assumes that environmental players strive for eco-systems to be sustained. Consumers have a desire on-going sustained consumption. Employees want working places sustained. Capitalists and socialists have ‘isms’ while aristocrats, autocrats, bureaucrats and technocrats have their ‘cracies.’ All are threatened...with the term meaning something different to everyone, the quest for sustainable development is off to a cacophonous start.

The method of effective implementation cannot be achieved in the conditions of understanding divergence. Hundreds of explanations have been proposed the last decades, but, however, we always start from the Brundtland definition. One may see it quite problematic, especially, for understanding by business representatives. Buhr (2006) argues that despite it includes the environmental, the social and the economy...but, what it does say about timeframe, geography,

justice, values and use of capital (natural, social, economic). For example, the following questions are coming up: may we determine our “needs” as more than subsistence, may we know how to define the “needs” of future generations, may we suppose what their “ability” to meet these will be and how far into the “future” should we consider? Additionally, Stavins et al. (2002) assumes that sustainability is more than solely intergenerational equity and should encompass dynamic efficiency as well. Recently, Appleton (2006) criticized that Brundtland definition of ‘satisfying human need’, but who much is a limit for human. He argued that what level human needs should be satisfied. Is it the American per capita income level, the Chinese per capita income level, the Millennium Development Goals or some similar bundle of similar services? Khan (2008) recognizes the fact that this quotation is nevertheless popular to date and has been used in many policies and a set of governmental documents worldwide despite it is weak and based on perfect direction.

Tackling sustainable development from different perspectives is not an easy task. Summarizing the general understanding of sustainability and sustainable development concepts it would be logic represent a small chart of the most appropriate SD quotations with comments which make clarifications somehow (Khan, 2008).

*Table 1. General definitions of sustainable development*

Definition of sustainability	Source	Comments of criticism
<b>Development that meets the needs of the present without compromising the ability of future generations to meet their own needs</b>	UN WCED (1987)	Most popular definition, but lacks clear direction, for example, what is the scale of needs?
<b>Management practices that will not degrade the exploited system or any adjacent system</b>	Lubchenco et al. (1991)	Generally system approach. There is no specific direction about time.

<p><b>Development without throughput growth beyond environmental carrying capacity and which is socially sustainable</b></p>	<p>Daly (1992)</p>	<p>Considers assimilative capacity of nature in a spatial scale. A time direction is completely missing.</p>
<p><b>Improvement in the quality of human life within the carrying capacity of supporting ecosystems</b></p>	<p>Robinson (1993)</p>	<p>Tries to integrate the social and ecological context in spatial scale, but not in temporal.</p>
<p><b>Sustainability is defined as minimizing the consumption of the world's resources by pursuing better environmental performance within product lifecycles</b></p>	<p>Donnelly et al. (2006)</p>	<p>Very weak definition, misguided sustainability.</p>

### 2.1.2 General pattern of 'sustainability'

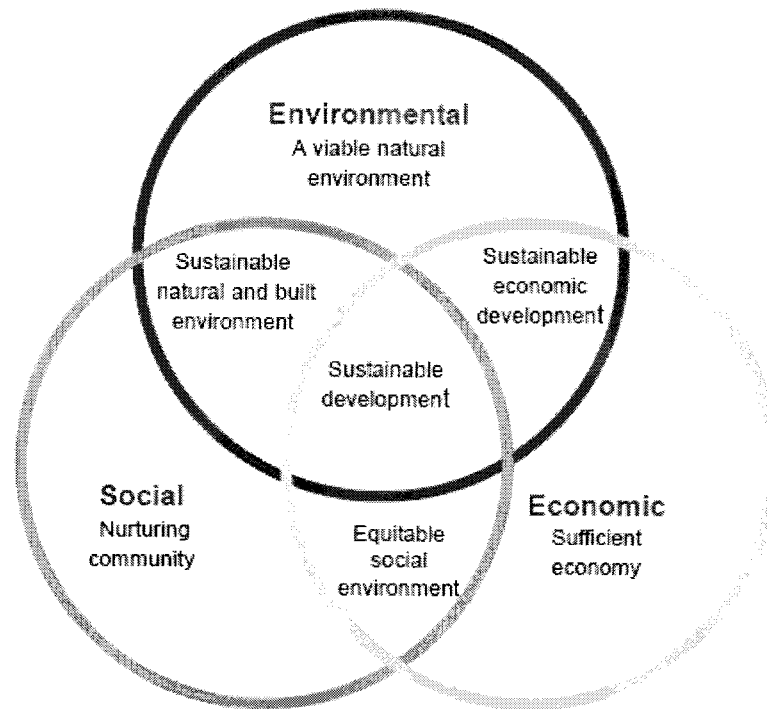
In spite of the ambiguity and offered wide range of sustainable development definitions, WCED one has emerged as dominant On-going discussions were made around the mentioned three main pillars the concept stands on. Elkington (1998) proposed them as environmental integrity, economic prosperity, and social equity. Each of these three pillars presupposes a necessary, but not sufficient, condition; if any one of the principles is not supported, economic development will not be sustainable. These principles are described below.

*Environmental integrity.* Bansal (2005) makes an assumption that this pillar ensures that human activities don't dramatically exploit the earth's land, air, water and other resources which organize the natural capital. Ecosystems are supposed to have limited regenerative capability and carrying capacity (IISD, 1995). Population growth, combined with growing resource consumption, increasing pollution, and depletion of natural resources, threatens environmental integrity (WCED, 1987; Pearce and Barbier, 1988). Human activities may have a significant negative impact on the natural environment including, but not limited to, decreased biodiversity,

ozone depletion, accumulation of greenhouse gases, waste management, deforestation, and toxic spills (Doering *et al.*, 2002). If the natural environment is compromised, then basic and necessary resources for human life, such as air, water, and food, will also be compromised.

*Social equity.* With regard to WCED documents (1987) Bansal (2005) states that the social equity pillar ensures that all members of community have equal rights for resources and opportunities. Central to the definition of sustainable development is the recognition that ‘needs’, present and future, must be met (WCED, 1987). Human needs not only include basic needs such as food, clothing, and housing, but also include a good quality of life such as health care, education, and political freedom (UNCED, 1992). The WCED (1987) document states that sustainability is a universal goal and that even the ‘narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation.’ This implies that future generations, indigenous peoples, and the disenfranchised are entitled to the same level of resources as more privileged people in developed countries (Gladwin, Kennelly, and Krause, 1995).

*Economic prosperity.* Finally, the economic prosperity principle promotes a reasonable quality of life through the productive capacity of organizations and individuals in society (Holliday, Schmidheiny, and Watts, 2002). Economic prosperity involves the creation and distribution of goods and services that will help to raise the standard of living around the world. Open, competitive, international markets that encourage innovation, efficiency, and wealth creation are fundamental aspects of sustainable development (WBCSD, 2002). Economic prosperity is tied intrinsically to the principles of social equity and environmental integrity (Schmidheiny, 1992). A society that does not create economic prosperity will ultimately compromise its own health and well-being (WBCSD, 2002). Without equal access to income-related benefits, conflict between peoples will erupt in order to achieve some perceived sense of equity (WCED, 1987).



*Figure 1. Generally accepted pattern of sustainable development (WCED, 1987)*

Transcript of the ‘sustainable development’ pattern presented above (IPIECA, 2005):

- Economic prosperity (sufficient economy): revenues, earnings, net cash flows, shareholder return;
- Eco-efficiency: resource efficiency, product stewardship, life-cycle analysis;
- Environmental integrity (viable natural environment): waste minimization, emissions reduction, regulatory compliance, biodiversity, spill prevention;
- Socio-environmental: safety & health, local environmental impact, global climate change, resource management;
- Social equity (nurturing community): diversity, employee satisfaction, human rights, community dialogue, labor standards;
- Socio-economic: jobs created, skills enhancement, local economic impact, social investments, business ethics, taxes / royalties.

### **2.1.3 Framing sustainability concept to corporate business processes**

Having specified above the general framework of sustainability and sustainable development dimensions, with regard to deductive approach it is logic to move forward from the common abstract understanding to more practical framework: what corporate sustainability does mean and how mentioned concepts are operationalized in the contemporary business process.

*Traditional business view vs. sustainable business development.* Consumers as well as industries and governments need to contribute to sustainable development to render its goals achievable (WBCSD, 1987). Hawken (1993) claims that the global business has been established as a dominant institution in the world. He mentions that due to the fact that it is the potential contributor into economic development and essentially influences the environment and the society sphere at the same time, the impact of business needs to be taken into consideration when sustainable development is investigated and measures are searched to promote it. No doubt, multinational corporations, whose activities are generally driven to the achievement of organizational objectives, very often impact negatively on society and environment in spite of the obvious positive contribution into the local and global economies. It is true that usually, in understanding of an average citizen, MNCs (especially who are engaged in non-renewable resource extracting industries) may be described as profit-seeking organizations, which are accountable only to shareholders and responsible for return on investment and other critical financial indicators (Jacobsen, 2007).

Welford and Gouldson (1993) assume that traditionally the view of the corporate world has been based on the idea that the investments and innovations of industry drive economic growth and satisfy the demands of the consumer. And the accent is mad by managers on conventional system to evaluate corporate performance management using the key indicators like ROI, ROA, EBIT, net profit etc. With regard to this fact Ball and Milne (2005) state that the current indicators of success show that we are moving away from rather than towards a sustainable future. As they claim the profit measurement is not bad itself, but “the predominant means by which it is generated and accumulated, and at what and whose expense, is bad” (ibid.). However, the traditional view on business conduction, causing damage to both society and environment, is no longer seems as effective according to the current tendency: large MNCs and SMEs are enhancing their activities in frames of commitment to corporate sustainability increase the transparency, responsibility, environmental protection and conservation. Though, Welford (2000) argues that making economic development and environmental protection compatible would require radical changes in economic practices throughout the world.



***Corporate sustainability – the basis for sustainability accounting.*** According to Welford (2000) a strategy for responding to the demands of corporate sustainability must begin with real commitment on the part of the whole organization. In our opinion it depends on how the concept is understood and what is the attitude to the possible organizational changes. This may mean a change in corporate culture and the role which management plays...with respect to objectives of social and environmental issues, management has to be the catalyst for change (ibid.).

The most complicated thing to do for business is, as Hill (2006) states, to find the relationship between sustainability and businesses' ultimate aim. Because, we came to a point, that generally accepted definition of sustainability sounds too abstract and ambiguous, especially, for representatives of business and engineering. According to the research among environmental managers and accountants by Bebbington and Thompson (1996) about the implications that arise from the pursuit of sustainability, they found that there was 'no coherent picture of a sustainable society or a sustainable business would look like'.

Therefore, if corporate sustainability is to achieve its potential, it should be embedded into the strategic planning and estimation systems of business entities. In order to achieve this, the concept must be determined in form that can become recognizable by businessmen (IISD, 1992). The following definition is suggested: "For the business enterprise, corporate sustainable development means adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future" (ibid.). The advantage of this 'business' understanding of sustainability reflects in the capture of the Brundtland definition proposed by WBCSD and the recognition of economic development that meets the needs of an enterprise and its affected stakeholders. The dependency of business on natural and human capital is highlighted as well, in addition to financial and physical resources.

Referring to the sustainability definition, we may observe a basic differentiation of the corporate sustainability spheres: the orientation addressed to the issues of economy, ecology and society. According to Schneider (2009) who assumes that it is not a surprising fact for the major of sustainability reporting guidelines and methodologies are more or less compatible with the TBL (triple-bottom-line) criteria proposed by Elkington (1998). TBL also includes the economic, social and environmental effects as well as functions and of business process (even if a majority of enterprises still report on conventional financial performance separately).

Schneider (2009) states that the key indicators used in practice to operationalize corporate sustainability prove the business contribution to the primary objectives of sustainable development presented above. The explanation may seem abstract. In the sphere of economy, the performance measurement is standardized and executed quantitatively and in a comparable method through the system of critical KPIs. As for the domain of ecology, measurement of the ecological activity of business is becoming more and more common with regard to increasing awareness for environmental problems and a rising amount of legal requirements as well. Concerning the social domain, SD indicators vary from commitment to international and local conventions and laws to voluntary activity like contributions to specific causes and social programs (ibid.). Perrini (2006) states the evidence that both non-financial spheres are characterized as partially qualitative and partially quantitative reporting, and still only standardized to a limited degree (Schäfer, 2005). Finally, a produced set of financial and non-financial present the variety of contributions companies can make to sustainable development and answer the question of their commitment to sustainability performance.

We want to point out that the issue of sustainable development has a much wider scope than the concept of corporate sustainability; also a concept of CSR should not be considered the same as the latter. Wood (1991) assumes that despite the notion of CSR is different in the relevant theories and practices; sometimes it is mixed with the concept of CS performance. There seems to be that CSR is an essential part of enterprises' contributions to sustainable development which may be considered as CS. Schneider (2009) supposes that the voluntary nature of CSR clarifies that CSR and corporate sustainability are not on the same level, because a portion of corporate contributions to sustainable development is compulsory, such as the compliance with economic, environmental and social regulation. In this case the relationship between CSR, CS and sustainable development is shown in figure proposed below:

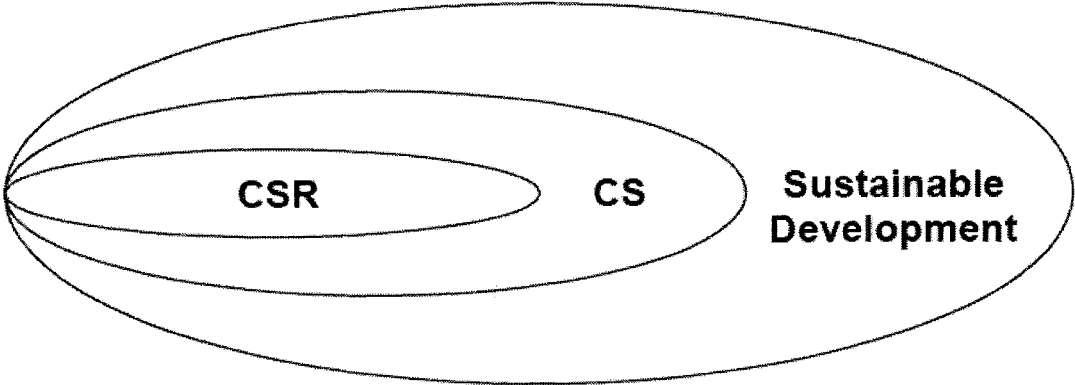


Figure 2. Scope of sustainable development, corporate sustainability and CSR (Schneider, 2009)  
*Bodo Graduate School of Business 2010*

## **2.2 Sustainability disclosures**

### **2.2.1 Disclosure vs. reporting: a brief comparison of concepts**

In this section we have a look at two central concepts which we use in our research – sustainability disclosure and sustainability reporting. These two concepts at a first glance may seem quite similar as their primary objective is transferring of information flows to end users, for instance, stakeholders which need particular data on sustainability issues. However, the supposition of similarity of disclosure and reporting is wrong as the former is wider by its nature and the latter is included in it. So, our aim here is to reflect the crucial differences and how these two concepts are operationalized by scholars.

Following the logic, we start up with the broader concept of disclosure regardless of its mandatory or voluntary basis. In the context of ‘information management’ the general definitions of ‘disclosure’ states that it is: 1) the production of information and documents; 2) a company's release of all information pertaining to the company's business activity, regardless of how that information may influence interested groups (e.g. stakeholders); 3) from the position of ‘principal – agent’ framework the end user may not be identified; 4) disclosure does not always need to be verified. According to Tian and Chen (2009) information disclosure is also named as information publicity which covers the whole process of securities’ issue and circulation of, for example, stock-issuing introductions, listing announcements, interim reports, annual reports, mainly including financial and non-financial statements.

As we can conclude from the definitions above, ‘disclosure’ of relevant data refers, first, to the process of data production with no specifying how it is generated and what particular form it would have. Secondly, it refers to publishing issues where report is a form of published disclosure. So, the ‘disclosure’ concept covers the reporting process. But in the case of reporting the principal who check data is always identified, on the opposite ‘disclosure’ is published regardless the end user identification. As Tian and Chen (2009) underline that report is a carrier of data disclosure reflected in the form of annual reports, public announcements, booklets, websites etc. The reasons of disclosure and reporting are, in general, the same. When it comes to mandatory basis, the motives here are the laws and regulations to adjust the data communication between a company and other interest related stakeholders. The voluntary disclosure and reporting are driven by self-interested process of ‘business - stakeholders’ communication.

Speaking about the concept of ‘reporting’ as a part of ‘disclosure’, it is specified as formed and systematized dimension of disclosure. The ‘disclosure’ is not linked to some guidance, standards

and principles, so a company implements the data disclosure process on its own. Though, the objectives and target group of reporting and disclosure are similar, reporting is based on the accounting principles, in case of our research – sustainability accounting principles that support the credibility, transparency, and accountability of the report. In comparison to ‘disclosure’, reports are to be verified in terms of information quality. The next difference is the determination of periodicity as usually reports are generated with regards to a time base: monthly, annually etc. The reporting process supposes the conduction through several phases: 1) Collection, aggregation and analysis of data; 2) Writing and layout; 3) Internal quality assurance; 4) Third-party assessment (optional stage, third-party assessment is usually up to an organization); 5) Clear determination of principal which would use a report. Finally, we see the difference between reporting and disclosure in the point that the former supposes the collection and analysis of users’ feedback including benchmarking and planning future improvements to the report’s content and readability.

Summarizing the differences of the ‘disclosure’ and ‘reporting’ concepts we can outline the following points: 1) ‘disclosure’ is a wider concept than ‘reporting’, the latter is more a consequence of the former; 2) first, an organization makes a decision of what to disclose, then it generates a report, so ‘disclosure’ refers more to data security issues which determine the scope of transparency and the level of communication with interest related stakeholders; 3) the basic mechanism of disclosure is the corporate governance, the mechanism of sustainability reporting – sustainability accounting based on the particular standard and guidelines; 4) a report is a formed, systematized and verified result of disclosure.

### **2.2.2 Sustainability accounting and disclosure practice**

Generally, the objective of sustainable development seems broad and ambitious. By this reason the challenging concept of corporate sustainability has been discussed above. In the business context, information about sustainability impacts and performance may help managers to embed pro-active sustainable thinking into their decision-making, planning, accomplishment and control routines. Here this is the main point in terms of ‘corporate sustainability’ debates. Consequently, sustainability accounting and disclosure practice, which serve the registration, measurement and communication of sustainability data - become useful managerial tools in moving towards sustainable development (Schaltegger et al., 2006).

### 2.2.2.1 What is accounting?

Speaking about the concept of ‘accounting’ and its objective, first, we refer to the conventional financial issues, because by its nature the ‘accounting’ is considered as a calculative practice (Miller, 1987). In general accounting is a broadly defined concept that includes cost accounting, management accounting, financial accounting etc. Accounting systems consist of certain rules guiding how a particular environment should be transformed into numeric values and a number of interrelated technical elements, for instance, accounting objectives, postulates, principles, techniques and reports, through which such rules may literally be translated into practice (FASB, 1976).

Speaking about the basic objectives of accounting Mellemvik, et al. (1988) identifies accountability and decision-making. Gjesdal (1978) outlines that accountability is sometimes referred to the control or stewardship objective. According to this objective accounting operates in a principal-agent relation, where the idea is that agents report how the resources have been allocated and the results of actions performed (ibid.). Without the fair and true information the principal will not be able to control the agent (Ijiri, 1975). The decision-making objective states that the accounts should provide a basis for decision-making (AICPA, 1973). This objective focuses on a different interpretation of truth and fairness, where decisions are the goods, in the sense that they refer to effective resource allocation (Belkaoui, 1981). So, we have the juridical interpretation of accounting which emphasizes the past ‘principal-agent’ relations, and the scientific interpretation, which orients on the future basing on the events, happened in the past. Mellemvik et al. (1988) assumes the common denominator for these two interpretations – the reduction of uncertainty. Thus the intended function of accounting is *the reduction of uncertainty by using the accounting language of communication* (ibid.). This idea is visualized in the following figure:

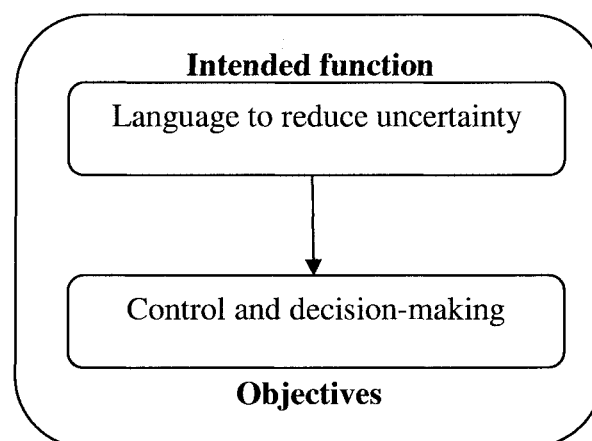


Figure 3. Accounting as a language for control and decision-making (Mellemvik et al., 1988)

The 'technological process' of accounting practice comprises the following activities, which are consequent and interrelated. These activities are data registration, data measurement, and data communication.

**Registration.** Accounting can be recognized as a set of rules about recording the business transactions and reporting. Accounting records dating back several thousand years have been found in various parts of the world. These records indicate that at all levels of development people desire information about their efforts and accomplishments (Schroeder and Clark, 1998). Accounting is based on an analytical view of the world, and in a functionalist sense it can be seen as a set of rules about how to record transactions and how to report (Mellemvik et al., 1988).

**Measurement.** During the economic development, the role of accounting is not only bookkeeping and registration but also having control, predict, measurement, communication and decision-making, etc. "The goal of accounting theory is to provide a set of principles and relationships that provide an explanation for observed practices and predict unobserved practices" (Schroeder and Clark, 1998). The American Accounting Association said accounting is "...the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information." The Accounting Principles Board claimed that the function of accounting is "...to provide quantitative information, primarily financial in nature, about economic entities that is intended to be useful in making economic decisions." And the FASB asserted that the role of financial reporting in the economy is "to provide information that is useful in making business and economic decisions."

**Communication.** Accounting can be seen a kind of communication tool in the business transaction. It improves and promotes the understanding of business behavior. Accounting is a language and therefore a medium of communication (FASB, 1976).

The accounting from the normative position seems quite clear and certain. There are defined intended function, understandable objectives, and the proposed technology. The accounting system in action will differ. With regard to this assumption Mellemvik et al. (1988) outlines that accounting has by no means the same function for all individuals; and different individuals assign their own functions to accounting according to the contextual frames.

Finally, Mellemvik et al. (1988) concludes that the intended function of accounting is in sharp contrast to the functions that are assigned to accounting in action. The next outlined point is that the functions which accounting fulfils are dependent on its context, while at the same time the

context is dependent on the accounting. Third, the context of the accounting structures and processes consists of other structures and processes both within the organization and outside it, in its environment. These conclusions are reflected in the following figure:

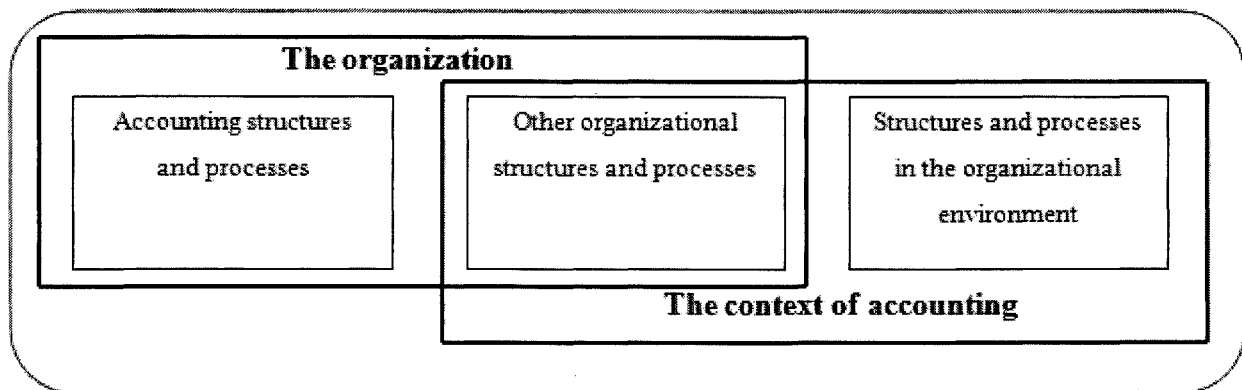


Figure 4. Accounting and its context (Mellemvik et al., 1988)

#### 2.2.2.2 Means of sustainability accounting

Bebbington and Gray (2001) state the fact that the concept of ‘sustainability accounting’ (or sometimes ‘social accounting’) has been specified over a period of years from both philosophical accounting discussions and developments in accounting (Schaltegger and Wagner, 2006) and its central role is attributed to the promotion of the dialogic learning of this new concept by businesses (Dillard, 2007; Unerman et al., 2007). All accounting constituents are solicited, including the accounting discipline, researchers, and accounting practitioners.

Milne and Gray (2007) state the evidence of negative implication of ‘sustainability accounting’ as a discipline claiming that it “helps businesses mask their socially and ecologically unsustainable practices to legitimate ongoing exploitation of people and the environment.” This particular effect of sustainability accounting also becomes transparent when researchers (Unerman & O’Dwyer, 2007) recommend it to situate the company out of legal reach of ‘subpolitics’ (Beck, 2001), thereby allowing shareholders to protect the value of their investment in order to incite them to adopt social accounting. On the other hand Dillard (2007) makes an assumption of productive positive effect of this discipline. He assumes that sustainability accounting presupposes that the academic accounting community has a responsibility to facilitate, and engage in, dialogue among members of the community regarding accounting’s (the systems, the profession, and the professionals) and organizational management’s public interest responsibilities. Accountants, the business community, members of academy and

representatives of the civil community have a responsibility to engage in and sustain this discourse.

In the ideal comprehension, considering the positive effect, the contribution of business into increase of sustainability awareness reporting transparency could be reflected through the effective engagement of professional accountants into sustainability accounting using the mechanisms of so-called market-based approach. This idea was reflected in the working paper of The Institute of Chartered Accountants in England and Wales (ICAEW) ‘Sustainability: the role of accountants’. The proposed approach implies the use of eight mechanisms within which the accountants’ role is outlined.

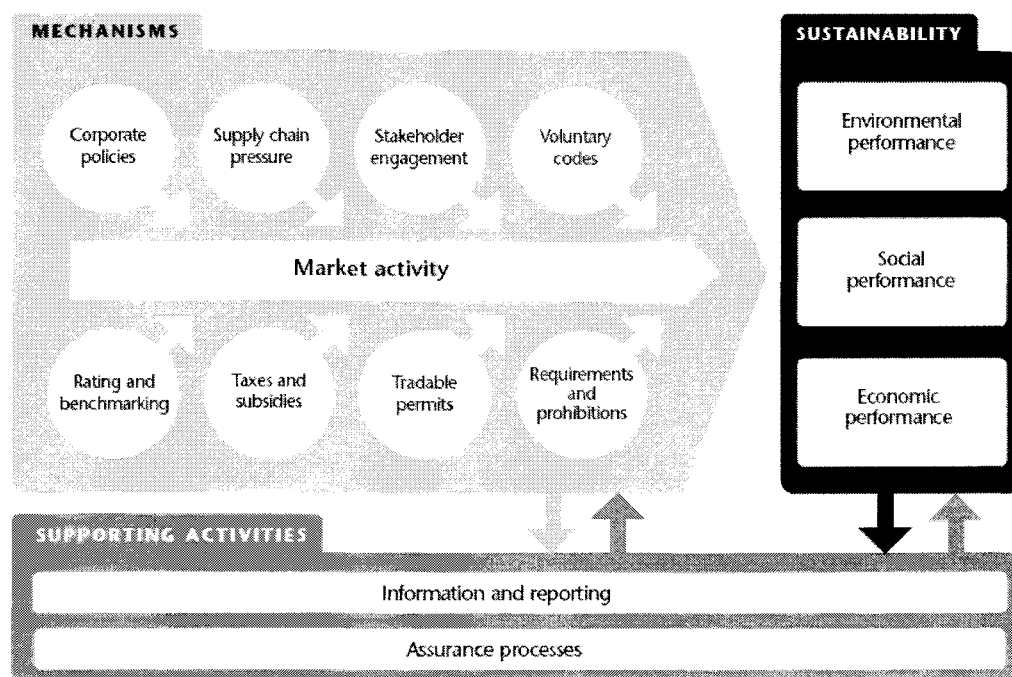


Figure 5. Interrelation of 8 market mechanisms, SD supporting activities and sustainability  
(Source: ICAEW, 2004)

The presented figure shows the scheme of how sustainability objectives may be achieved. Major of them involve accountants’ provision of the necessary information generated through detailed monitoring of production processes, evaluating corporate performance and communicating feedback through greater stakeholder engagement. Then can this data be used to suggest useful benchmarks to key persons responsible for the decision making. Additionally the relevant knowledge of existing regulation can be implemented (ICAEW, 2004).



### 2.2.2.3 Historical development

In a broad sense accounting nature has quite a long historical time frame of development from the conventional system of financial KPIs to incorporation of sustainability issues into accounting practice. According to Buhr (2007) the maturation of accounting, disclosing, and standardization is a slow process. For thousands of years accountants have worked on capturing the economic world by developing different forms of financial and managerial accounting and disclosing on it using accepted standards. Earlier Schaltegger and Wagner (2006) stated the fact that accounting has long been presented in a conventional way for use by both management and external parties. This accounting practice does not require business to record the consequences of its actions on factors that are external to it (Hart, 1997).

We will start with the conventional system of disclosures and the dimension of 'financial reporting'. It is based on accounting data which is collected within business entities and afterwards presented to external users through external reporting. Schaltegger et al (2006) claims that the disclosed data revolves around a number of statements which are related to the organization's financial activities. In particular the statement of financial position, or balance sheet, shows the financial position of the organization at a particular date; and the statement of financial performance, or income statement, provides information about the financial inflows and outflows of the organization in a specified period (ibid.). The form and content of today's financial statements are determined by the accounting standards set by various professional bodies globally. Particularly, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) are considered the world's two largest standard setters (Accounting for Sustainability Group, 2006).

Since the early adaptation of financial accounting for management control, *management accounting* has developed separately to focus on generating information for management planning, control and decision-making. In recent years the strategic importance of management accounting information has been emphasized. Adoption of a strategic approach means that strategic management accounting places stress on the ways in which organizations match their resources to the needs of the market place, part in order to achieve established corporate goals (Schaltegger et al., 2006).

This has raised the question of *corporate performance measurement and management* which as an integrative approach tries to link strategic management, management accounting, and reporting, in order to organize the flow of information between its justification, creation and

communication (Schaltegger and Wagner, 2006). In this view, the term 'reporting is not limited only to external reporting as it is in financial reporting but rather encompasses the whole information communication process, internally as well as with the external stakeholders.

Moving from financial to sustainability issues, Buhr (2007) assumes that similarly, sustainability accounting follows this slow development process that is not much over a hundred years old. The process begins with employee reporting and then moves on to social reporting, environmental reporting and, ideally, sustainability reporting. All these types are usually used to refer to the publication of external reports, as either printed brochures or electronic versions on the internet. Schaltegger and Wagner (2006) state, however, that one main effect of sustainability reporting is the involvement of management and employees in setting sustainability goals for the corporation, collecting data, and creating and communicating sustainability information. The design of external sustainability reporting should therefore consider its interplay with internal communication and reporting processes (ibid.).

#### **2.2.2.4 The types of sustainability disclosures**

In spite of clarified structure of sustainability disclosures which stand on three of triple bottom line, the types of sustainability disclosures differs within a great number of enterprises. The following classification of disclosures is proposed according to our research framework:

- *Web-based sustainability data.* This type is characterized by the direct disclosure of relevant sustainability data in free forms regardless the use by the data end users;
- *Separate sustainability report in addition to the financial report.* Some enterprises have started to produce separate sustainability reports in addition to their financial report. These reports suppose an annual publication which simultaneously presents corporate data on ecological, social and socioeconomic performance. Such separate reports consider the continuation of an environmental or social report which has been previously published. A good example from Shell Corporation published this particular type is the "3P Report" (People, Planet and Profits) in 1999. The Shell's report is one of the first of this kind which indicated the multidimensional sustainability reporting framework with regard to the TBL concept (Herzig et al., 2006);
- *Joint annual reports:* Because of the increasing financial importance of environmental and social issues, many enterprises extend their financial annual report integrating data on sustainability issues. The performance evaluation can be found either the balance sheet either profit and loss account. Some companies have decided to go a step further and integrate their

whole environmental and social reporting into their business reports. So, data is presented in separate part by independent sustainability tables, KPIs, figures etc. We can observe the integration of joint sustainability reports in the business reports. In some countries this integration is either mandatory or just recommended by national legislation (ibid.);

- *Specific reports:* Instead of producing a separate sustainability report or including joint sustainability data into a financial report, a number of enterprises have been publish a series of specific reports, for example, employee report, environmental report, social report, CR report, corporate citizenship report, etc. Each type is concerned to a particular challenge of corporate sustainability and addressed to different stakeholders (ibid.).

The authors summarize this type differentiation by the statement that the amount of business entities producing a sustainability report is arising annually. While simultaneously time new forms of corporate sustainability reporting are being developed. The ideal format of reporting and communication for private purposes is being searching by many companies. Consequently, the on-going experiments within the reporting consistency have been transforming the report contents and structure from year to year (ibid.).

### **2.2.3 Argumentation for ‘sustainability disclosures’ theories**

As we have mentioned in the introductory part the Norwegian business has been experiencing some changes in the sphere of ‘sustainability disclosures’ production. In this case we observe the reconstruction of non-financial accountability and forming of sustainability accounting as an institute in the O&G offshore supply companies. Inspired by the previous research of CSR in 100 Norwegian companies, we make an attempt to conduct an exploration of ‘sustainability disclosures’ production extent and mechanisms within the O&G offshore supply companies, having a look at the chosen two companies to go in-depth. One of the most crucial points for us became the choice of supporting theoretical frameworks. There are several theoretical frameworks that could be incorporated into our research of ‘sustainability disclosures’ production in the particular context. The relevant and the most popular, with regard to Buhr (2007), are accountability, legitimacy, political economy with the insight into neo-institutionalism, and stakeholder theory. As our paper examines the questions of how organizations do adapt ‘sustainability disclosures’ practice and its standards in their business environments (Meyer and Scott, 1983), we have chosen the insight into the neo-institutional theory on the one hand. Additionally, as we make a research of external / internal sustainability disclosures, the ideas of stakeholders’ engagement and dialogue are considered as well.

In our opinion, the most critical theory for the stated problem is the framework of institutionalization as it emphasizes the socio-economic context within which firms operate (Bansal, 2005). Institutional theory is relevant to corporate sustainable development and disclosures' practice because:

1. Individual value and belief systems judge a firm's commitment to sustainable development, affecting perceptions of the firm's acceptability and legitimacy (Bansal and Roth, 2000);
2. Actors with differences of opinion on issues of corporate sustainable development will dialogue and debate to establish norms and common beliefs (Hoffman, 1999; Wade-Benzoni *et al.*, 2002);
3. Elements of sustainable development and sustainability reporting are becoming institutionalized through regulations and international agreements (Frank *et al.*, 2000).

## **2.3 Institutional framework**

### **2.3.1 The institutional learning pattern of 'sustainability disclosures'**

Our main institutional learning pattern is based on the institutional approach of DiMaggio and Powell with the 'norm – action' model for accounting of Bergevärn. We have transformed it into the similar pattern in frames of sustainability accounting and disclosing, with two main ways of learning from one's own experience or from the experience of others (Bergevärn *et al.*, 1995). In our research framework the accounting environment is transformed into "environment for sustainability reporting". The accounting normative system is replaced by the norm system for sustainability reporting. The consequent empirical part of our thesis contains it in the form of Norwegian legal requirements and recommendations to disclose the sustainability data and the universally accepted voluntary reporting standards applied in the O&G offshore supply companies. The accounting action system is transformed into the 'sustainability disclosures' action system and reflected in 'sustainability disclosures' practices within the NSA members in general and the O&G offshore supply companies.

If we have a look at the figure below we can see that our institutional pattern for the production process of sustainability disclosures. The explanation of the figure is following. It consists of three main blocks: the big one – environment, and two blocks inside – norm system and action system. The stipple thin arrows show that the norm system and the action system are capable of learning from the experience of others. Also the environment as well can learn from both the

norm system and the action system. The bold black arrows in the figure indicate that norm and action systems learn from their own experience. Two thin arrows between norms and actions show a learning process from each other. Two thin arrows between norms and actions show a learning process from each other.

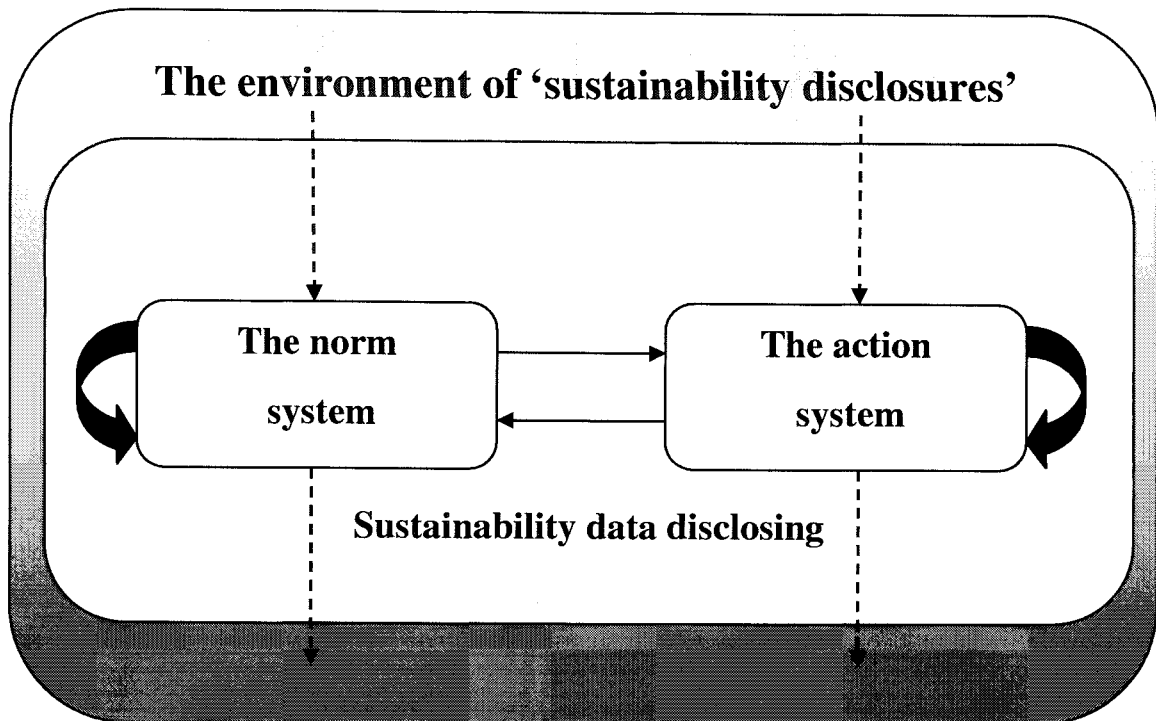


Figure 6. The visualization of relations in the institutionalization of 'sustainability disclosures' production (Source: adapted from Bergevärn et al, 1995)

With regard to the proposed institutional pattern Bergevärn et al (1995) states that institutional visions are characteristics of various trends – in political science, in economics, and in sociology as well as in financial or sustainability accounting. North (1993) assumes that if the political, economic, social institutions are the rules of the game, formal organizations are the players made up of groups of individuals engaged in purposive activity. The former constructs the norm system for the 'sustainability disclosures' production; the latter reflects what is done in the practice of this production.

**Environment.** This organizational activity is being analyzed through the institutional perspective based on the four sociological definitions distinguished by Scott (1987). But within the frames of our interest we refer to the definition of Meyer and Rowan (1977) who propose that organizations adapt to myths of the environment, or the wider culture, in order to gain legitimacy, resources, stability and the possibility of survival. With regard to the adaptation to these myths neo-institutional theory asks questions about how social choices are shaped,

mediated, and channeled by the institutional environment (Hoffman, 1999). In its turn the institutional environment is of a complex and multiple character (Meyer and Rowan, 1977) and commonly thought to be composed of organizations and organizational fields, which is the central element of institutional analysis (Unerman et al., 2007).

An organizational field is formed by those organizations that collectively constitute a recognized area of institutional environment (DiMaggio and Powell, 1983). In our research framework we investigate the institutionalization of 'sustainability disclosures' production within the Norwegian O&G offshore supply companies, and the changes of 'sustainability disclosures' application extent within this industry seem important to the interests and goals of organizations in this field. Hoffman (1999) states that organizational issue-based field (i.e. the business field is activity of the Norwegian O&G offshore supply companies and the issue is 'sustainability disclosures' production field) should be analytically detected through observation 1) the extent to which certain organizations interact, 2) information load that they share, and 3) development of mutual awareness that they are involved in a common debate.

**Norm system.** In addition to the institutional environment, Bergevärn et al (1995) considers that the institutionalization consists of set of elements, and due to this reason it is important to find differences between norm and action systems in order to understand the whole system. Scott and Meyer (1983) specify the norm system as the elaboration of rules and requirements and to which individual organizations must conform if they are to receive legitimacy from the environment. However the norm system cannot achieve a perfect harmony. Different interests that belong to different individuals and organizational actors represent it. The normal system exists in order to comprise the multiple institutional environment of action system (Bergevärn et al., 1995). The norm system of an enterprise may be divided into two parts: external and internal. An external norm system in its turn will regulate actions in the organizations within its domain; an internal system will exist in order to adapt actions to the local context (ibid.).

**Action system.** The final element of institutionalization proposed by Bergevärn is the action system which is supposed to be under control of the norm system. According to (Bergevärn et al., 1995) the action system comprises the instrumental activities and procedures that are performed in order to gain legitimacy. In our case it can be the instruments and procedures for 'sustainability disclosures' production. Within an organization it can be divided into separate interrelated procedures. For example, in frames of sustainability accounting it can be the daily registration, measurement and communication (the production of 'sustainability disclosures') of data on the socio-economic and environmental impact.

### 2.3.2 Organizational learning and change

We have carried out that the production of ‘sustainability disclosures’ may be divided into two systems, norm and action, with the surrounding institutional environment. One more important point in this institutional pattern is the learning process for norm and action systems. Bergevärm et al (1995) states that the perspective of organizational learning is concerned with the understanding of organizational behavior and change. According to North (1993) modeling organizational institutional change requires the identification of agent, source of change, and process.

**Agent.** In our research the agents of change are the O&G offshore supply companies as a cluster of the Norwegian Shipowners Association and the decision-makers of enterprises engaged. Basing on the social constructionists’ approach their subjective perceptions determine the choices they make.

**Source of change.** North (1993) assumes that the sources of changes are the rationales for enterprises within the implementation of sustainability reporting. They will stem from either external changes in the environment or from the acquisition of learning and skills which will suggest new opportunities. Such reporting is driven by who the corporation thinks it is accountable to and what it is accountable for. Unerman et al (2007) states that these rationales do not operate in isolation are employed together as a way for an organization to understand its reporting situation. He points out that the range of rationales is complicated and many of them may be associated with the voluntary as well as mandatory aspects of ‘sustainability disclosures’ production.

The range of change sources (rationales) is presented below:

- Moral and ethical rationale, duty. Proactively, sustainability disclosures are considered as the corporate citizenship program and fulfillment of ethical duty; on the contrary reactive thinking complies with the national either industrial legislation: if there is no legal requirement – there is no ethical duty of sustainability engagement (Unerman et al., 2007).
- Legitimizing corporate activities, products and services which impact the environment and community. The essential motive of legitimating the supply of important resources is the increase by raising the awareness of key stakeholders’. According to Herzig and Schaltegger (2006) this applies, generally, for the public acceptance of the company, as well as for the acceptance of particular management decisions and activities which may

sometimes be compromising. In order to provide the reliability of disclosures a company must incorporate universally accepted guidelines and standards for sustainability reporting (like GRI) considerably related to the principles of International Financial Reporting Standards (IFRS) such as transparency, inclusiveness, completeness, relevance, sustainability context, accuracy, neutrality, comparability, clarity, timeliness and auditability.

- Maintenance of or increase in corporate reputation and brand value. Corporate reputation can be increased by disclosing data about successful engagement in non-market issues, for instance, in environmental and social projects which are not considered to be part of core business activities. Outstanding corporate reputation is often related to higher brand value and may contribute to increasing business success (Schaltegger et al., 2006).
- Sending signals about superior competitiveness, with SR activities as an indicator for overall performance. Unerman et al (2007) supposes that a company claims it is really doing better than people think and it needs to let them know.
- Gaining a competitive advantage and corporate reporting awards. Basing on the effect corporate performance signals enterprises have a possibility to get a competitive advantage. Other enterprises can lose their leading positions if they do not participate in socio-economic and environmental projects or lacks the communication of their achievements (Gray and Bebbington, 2000). In addition a high-quality outstanding report may even be awarded e.g. with a high ranking in a sustainability reports competition - may contribute to a positive reputation and to the documentation of superior competitiveness (Herzig and Schaltegger, 2006).
- Comparison and benchmarking against business rivals. Considering the standardization process of 'sustainability disclosures' production, the potential of comparison and benchmarking sustainability performance of a company may improve over time (GRI, 2002). The benchmarking with rivals may be external and play a role of a driving force for management within the sustainability issues; whereas some enterprises may organize an internal-based benchmarking system to make a comparison business units, divisions, departments, etc (O'Dwyer, 2002).
- Personnel motivation, internal information and control processes. Sustainability data disclosing provides an internal corporate reason to deal with corporate sustainability. The processes of employees' awareness would be initiated; additionally, such disclosure can establish routines for considering sustainability-related data to be part of business



information flows. Data collection and analysis and the increase of transparency may provide a support to performance management control (Herzig and Schaltegger, 2006).

North (1993) underlines that, in fact, it has usually been some mixture of external rationales for change and internal learning that triggers the choices that lead to institutional change. Deliberate institutional change will therefore come about as a result of the enterprises' demands in the context of the perceived costs of altering the institutional framework. The enterprise will estimate the gains to be derived from changes within the existing institutional framework compared to the gains from devoting resources to altering that framework.

**Process.** The process of institutional change for norms and action systems is overwhelmingly incremental and continues within the organizational learning (ibid.). With regard to this idea Levitt and March (1988) specify two different types of learning: learning from one's own experience and learning from the experience of others. The authors discuss learning primarily in terms of corporate own experience in the shape of experimentation involving trial-and-error and organizational search. Speaking about learning from the gaining experience from others, here institutional literature brings the idea of organizational homogenization, a process called institutional isomorphism (DiMaggio and Powell, 1983). They state that this concept seems to be a useful tool for understanding the politics and processes that penetrate a modern organization. In principle, there are three ways in which an organization can learn from others' experience: coercive, mimetic, and normative (ibid.). Jennings and Zandbergen (1995) argue that the type of institutional pressure (coercive, mimetic, or normative) influences the rate at which sustainable development practices diffuse among firms. These three learning mechanisms are described below.

- *Learning by coercion.* Institutional processes can work through coercive pressures imposed by institutions that directly influence firms (DiMaggio and Powell, 1983). Failing to comply with these pressures, particularly those imposed by urgent and powerful stakeholders can result in loss of earnings, a damaged reputation, or even loss of the license to operate (Oliver, 1991). One may point out the critical role of government in influencing corporate sustainable development. Firms that have previously incurred fines are scrutinized closely by the government and special interest groups for further indiscretions because of their loss of legitimacy (Meyer and Rowan, 1991). In an effort to deflect this scrutiny, these firms will subscribe to a higher standard of corporate sustainable development. Firms that have been subject to fines and penalties

will also become more sensitive to acceptable sustainable development practices and be more informed of what they need to do to avoid further infractions (Bansal, 2005).

- *Mimetic learning.* Firms will actively attempt to reduce the level of uncertainty in their organizational environment by imitating the structures and activities of similar firms (DiMaggio and Powell, 1983). ‘Sustainability disclosures’ production is marked by considerable uncertainty because of changing expectations, the complexity of the problem, and the difficulty of its resolution. Through imitation, firms may capitalize on the successes of their peers. Firms will likely mimic the visible and well-defined activities of others, such as environmental audits and certified environmental management systems, especially when these activities have been reported to external stakeholders. Firms that mimic their peers are less likely to suffer public or financial sanctions because of the legitimacy that is often conferred when many players are engaged in the same practice. Some companies often claim that their industry association and the development of codes of conduct are important factors in influencing change and there is a common sentiment that efforts towards sustainable development has to be undertaken collectively (Bansal, 2005).
- *Normative diffusion.* This type of institutional isomorphism occur primarily by way of professional education, where by knowledge is transmitted to a wide audience by educational institutions (Bergevörn et al., 1995). In general, normative mechanisms lead individuals to act according to established values and norms (Unerman et al, 2007).

### **2.3.3 Norm system of ‘sustainability disclosure’ production**

As we have mentioned the norm system is linked to the established standards, international or local regulations and recommendations emerged for corporate sustainability reporting. Hence, the norm system may be structured within two basis institutional frameworks: regulative and normative. The regulative framework relates to those mechanisms that are usually mandatory, when ‘an agent’ (e.g. a business unit) follows the established requirements of ‘a principal’ (e.g. governmental authorities or industry). The normative framework for business units bases on the voluntary nature of guidelines and recommendations to be followed.

#### **2.3.3.1 Regulative (mandatory) framework**

The regulative structure acts through the coercive mechanism which we usually see in the form of international either local governmental or industrial legislative pressure. So, Scott (1995) sees

the regulative pillar in rule setting, monitoring, recompense and punishment. In frames of SR corporate entities have a liability to provide the particular stakeholders with mandatory reporting. For example, Norwegian companies disclose the environmental indicators of GHG emissions and socio-economic data with regard to the requirements of Norwegian Accounting Act. Sustainability regulations get enough attention from government as well as business. Willard and Lovins (2005) distinguish several critical components of effective sustainability regulations:

1. Clear jurisdiction between different levels of government ... so that time-wasting and costly legal debates about the validity and relevance of the regulation are avoided;
2. Clear, measurable, and enforceable standards ... so that it is clear when violations occur; mandate the "what/results," not the "how/technique";
3. Mandatory language ... so that it is clear that noncompliance is not an option; "must" is used instead of "may";
4. Effective compliance and enforcement mechanisms, including incentives and penalties ... so that the regulations have teeth and also make it evident that companies doing the right thing will benefit;
5. Adequate resources for implementation and enforcement... so that the sham of tough laws without a corresponding threat of being caught is avoided.

Willard and Lovins (2005) make an assumption that very often the regulations are poorly designed, drafted, implemented, and enforced. Regulations are only effective if they are enforced and if enforcement leads to court cases. This position will be reflected further using the practical example of sustainability norm system in Norway. The authors state the evidence that the effective commitment to sustainable development and sustainability reporting could be achieved through strong penalties, such as significant fines and jail terms for executives or board members, coupled with rigorous enforcement mechanisms to motivate the management attention.

We may conclude that legally mandated institutional change for sustainability disclosures will be conducted effectively only if it gets a significant support from the governmental bodies and community. The government as one of the main external stakeholder does occupy a leading position to ensure market forces send signals that encourage sustainable corporate behavior and punish the opposite. Some of these motivators will be regulated; some will be voluntary (ibid.). Concerning the determination of learning process type, Bergevärm et al (1995) specifies two

following types: ideological and hierarchic. The regulative institutional structure stands on the hierarchic learning process. It emphasizes the strong relation between a principal (the Norwegian government) and the agents (the O&G offshore supply cluster as a NSA part). Here the norm system is linked to a principal. This structure primarily is best suited to the coercive diffusion of norm system to action system of sustainability disclosures. In addition, Bergevärn characterizes the hierarchic learning process by the stability of norms (e.g. sustainability accounting and reporting norms), and the fact that the norm system becomes involved in learning when someone takes command of it or when ideology changes.

### **2.3.3.2 Normative (voluntary) framework**

The voluntary nature of sustainability disclosures and the term “corporate volunteerism” on sustainability issues is a relative notion and may be considered ambiguous. For example, Willard and Lovins (2005) outline that in North America, a voluntary initiative suggested by government may mean “business as usual”, whereas in Europe it may mean “do it or we will make you do it”. In this case the normative structure may contain the elements of coercive diffusion.

The voluntary setting of disclosure standards in the norm system complies with the normative pillar of institutional theory and the means of normative diffusion. Scott (1995) identifies that it focuses on values and norms that could be applicable to all members or to specific actors. DiMaggio and Powell (1983) argue that normative isomorphism is reached through professionalization, formal education and professional networks: those are the networks where values and norms are acquired...So that, organizations commit to these values and norms not through the coercion or imposition, but through the legitimate authorities of norms and values (Scott, 1987). Unerman et al. (2007) adds that companies adopt those structures because they genuinely think that given their role in society, it follows that they have to acquire some structures or engage in some practices, like signing up the commitment to 10 principles of UN Global Compact or setting GRI standard of SR. By the way, the adoption of these practices is not enforced by the United Nations or Global Reporting Initiative. It means that the corporate norm system is attentive and adapts social and organizational rules (ibid.). So, there is no strong relation between agents and principal, consequently, the norm system is not linked to the principal (Bergevärn et al., 1995). It means the ideological learning process for the norm system of sustainability disclosures. Therefore, the nom system is not based on the sovereignty of the principal (e.g. the UN or GRI setter). Instead, it has to link its rhetoric to the existing societal ideologies to exploit SR norms (ibid.).

The voluntary setting of organizational norms and reporting guidelines, in the context of sustainability issues, has been established by pro-sustainability business groups, NGOs, industrial associations, accountants, consultants, government since the late 1990's. It is stated that the guidelines ranged from vague and conceptual to specific and detailed. Many of the guidelines were put forth as part and parcel of broader initiatives to integrate sustainability in firms. The example for this includes the United Nations Global Compact, the International Chamber of Commerce's Business Charter for Sustainable Development, and the OECD guidelines; nevertheless, these frameworks do not provide companies with a detailed guidance for reporting practice. The authors add that the voluntary reporting guidelines are also a component of environmental management systems such as ISO 14000 (specifically, ISO/WD 14063 draft deals with environmental reporting) and the European EMAS framework (Etzion and Ferraro, 2007).

But, however, none of the initiatives above provides guidance as detailed as that provided by GRI, a multi-stakeholder institution that develops and spreads guidance for SR, codifying its norms and rules. The GRI established the norm that sustainability reporting should address the TBL and, thus, it became appropriate to report not only on environmental issues, but also on social aspects of sustainable development, such as poverty or human rights (Unerman et al., 2007).

#### **2.3.4 Action system of 'sustainability disclosures' production**

In comparison with the norm system of 'sustainability disclosures' production, the action system has an emphasis on the organizational level and the disclosure process. This system refers to the content of corporate sustainability disclosures, established internal instructions and practice of disclosures, so in general, the question of what is being actually done with response to sustainability issues and how the regulative and normative frameworks are being adjusted within the organizational networks.

In our view, the action system of the sustainability disclosures are driven by who the enterprise thinks it is accountable to and what it is accountable for. Buhr (2007) emphasizes that what is reported is provided in response to various pressures, expectations and social change. What enterprises choose to address in their reaction to public opinion as well as the reflection of they interpret public opinion to be. Generally, the action system can be overviewed and understood through the theoretical framework of stakeholder engagement and dialogue, as, the stakeholders' interest and opinion determines the corporate disclosures of a business entity. In other words,

Deegan (2006) states that an organization discloses data in accordance with the expectations of society, where it exists. Society can be represented as a group of different stakeholders who are influenced by organization's activities.

Stakeholder theory may help us to understand corporate responses within economic, social, and environmental issues to different stakeholder groups within society. Originally, this framework was developed by Edward Freeman in his book "Strategic management: a stakeholder approach" in 1984. Going further, Unerman (2007) assumes this framework as stakeholder engagement and dialogue and considers them the crucial components of sustainability disclosures. To understand this idea properly one need to place them in the contextual environment of sustainability reporting process. This process can be seen in the form of hierarchic stage process, whereby the decisions taken at each stage in the hierarchy determine the issues to be considered and decided in the subsequent stage.

One of the theoretical patterns was proposed by O'Dwyer et al (2005) who outlined four broad hierarchical stages involved in sustainability disclosures. These stages were labeled as the question chain '*why – who – for what - how*' (Deegan and Unerman, 2006). So that, the '*why*' stage involves the determination of organizational motivation, or rationales, for engaging of the sustainability reporting practices. The '*who*' stage identifies the stakeholders to whom an organization considers itself responsible and accountable if it is to achieve its objectives for engaging in sustainability disclosures. The '*for what*' stage is the stakeholder engagement and dialogue stage, economic, environmental, social expectations of these stakeholders are identified and prioritized. Finally, the '*how*' stage encompasses the mechanisms and disclosures which the organization employs to address these stakeholder expectations (Unerman et al., 2007).

In addition, this pattern can be seen through the lens of two dimensions: strategic accountability and holistic accountability. The strategic perspective considers a continual drive for short-term economic sustainability in the form of maintenance or growth in financial KPIs like profit and satisfying the interest of shareholders, at the same time social and environmental disclosure is used as a managerial tool to win or retain the support of those stakeholders who have power to influence the achievement of corporate goals (O'Dwyer, 2005). In the context of strategic management sustainability disclosures can be set as a 'win-win' solution, which means the reporting on the mitigation of negative business impact on society and the environment with the consequent profit increase (Thomson and Bebbington, 2005). Whereas, the holistic perspective of sustainability disclosures presuppose that an organization acts in a manner of truly responsibility and accountability for all of its impacts on all engaged stakeholders – not just for

those impacts or activities prioritized by the organization’s managers (Bebbington and Gray, 2001). In order to make the pattern more understandable its visualization is presented in the following table:

*Table 2. A staged hierarchical pattern of the sustainability disclosure process (adapted from Unerman et al., 2007)*

<b>Stage in pattern</b>	<b>Issues in stage</b>	<b>Example of holistic accountability</b>	<b>Example of strategic accountability</b>
1. Why	Motives and rationales for sustainability disclosures	Using disclosures as a key mechanism for social, environmental and economic sustainability	Using disclosures as a tool to help maximize shareholders’ value
2. Who	Range of stakeholders to be addressed in SR	All stakeholders affected by organization’s actions (including future generations and non-humans)	Stakeholders with the most economic power, who would detract from shareholder value if they withdrew their support
3. For what	Determining responsibilities to, and information needs of, stakeholders through engagement and dialogue	Needs of all stakeholders discussed and weighed via democratic debate leading to widely accepted consensus of organization’s responsibilities and accountabilities	Stakeholder needs prioritized according to their relative economic power over the organization. Needs and interest of less powerful stakeholders largely ignored
4. How	Mechanisms used to compile and communicate disclo-	Disclosures focused on consensus of information needs of	Disclosures focused on needs of economically

	sures addressing these stakeholders information needs	broad range of stakeholders	powerful stakeholders
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**2.3.4.1 The ‘why’ stage. Motivation**

One may face a variety of motives that drives any enterprise’s sustainability disclosures. Actually, we have presented the combination of rationales in the section of institutional change towards improving corporate accountability. Hence, we will just name them without in-depth specification:

**2.3.4.2 The ‘who’ stage. Stakeholder identification**

Having identified the motives and rationales underpinning why an enterprise discloses data on the sustainability issues, the following stage is dedicated to identification ‘to whom’ the enterprise needs to disclose such data. Unerman et al (2007) claims that this identification of stakeholders has to take place after the motives for sustainability disclosures have been determined, because the range of stakeholders to be set by any organization will be directly dependent upon its motives for engaging in the production of sustainability disclosures.

According to Freeman (1984) stakeholders are broadly defined as ‘an individual or group having a legitimate claim on the firm – someone who can affect or is affected by the firms’ activities’. Tilt states that stakeholders include shareholders, analysts, employees, customers, competitors, suppliers, banks, mass media, government, communities, public interest groups, NGOs and so on, which could be categorized into two groups: primary (economic) stakeholders who engaged in decision-making, like shareholders or financial analysts and non-financial secondary stakeholders, “which are not participate in transactions with corporation and are not essential for corporate survival” (Clarkson, 1995). In general, the pattern of stakeholder classification has the following structure:



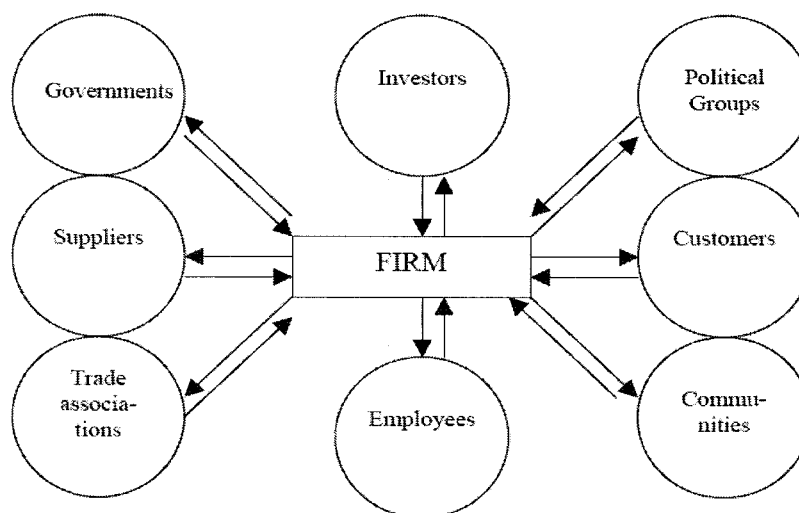


Figure 7. Stakeholders' classification (Source: Freeman, 1984)

Summarizing the main aspects of stakeholder theoretical framework, Jones and Wicks (1999) concluded:

- Corporations has relationships with many constituent groups ('stakeholders') that affect and are affected by its decisions;
- The framework is concerned with the nature of this relationships in terms of both processes and outcomes for an organization and its affected stakeholders;
- The interests of all (legitimate) stakeholders have intrinsic value and no set of interests is assumed to dominate the others';
- The theory focuses on managerial decision making.

#### 2.3.4.3 The 'for what' stage. Responsibilities and information needs

After the stakeholder identification, the third broad stage in the sustainability disclosures production is the determination of the economic, social, and environmental expectations of these stakeholders (Deegan and Unerman, 2006). This stage is considered the most important as it shows what kind of data is expected by stakeholders to enable them to judge the organization's performance in relation to these expectations (Unerman et al., 2007).

Unerman et al (2007) states that having once specified the stakeholders and their crucial expectations of the sustainability information flows an organization can then begin producing a social and environmental (or sustainability) disclosures which addresses the specific sustainability issues.

#### **2.3.4.4 The ‘how’ stage**

Unerman et al (2007) assumes that an organization cannot determine how to compile an effective sustainability disclosure - for example, to decide upon which issues to address in the report – until it has identified its stakeholders’ information needs and expectations. Without this identification any productive sustainability disclosure will provide information which is not targeted at any particular purpose. In order to systematize and communicate this data a set of various regulatory and / or normative mechanisms may be applied with regard to the norm level of sustainability reporting, e.g. standards (international, national, industrial etc.), guidelines, recommendations and so on. Without appropriate application of specific mechanisms for communication of sustainability data the purpose of sustainability disclosures is questionable. Consequently, it will be ineffective for systematically holding an organization, and its managers, accountable for the sustainability impacts.

#### **Summary**

The theoretical framework has provided our research with the necessary base for the further interpretation and discussion of findings. The following discussion part is written with compliance to the tasks defined with regard to our theoretical knowledge of sustainability disclosures.

At first, we have found out a set of definitions regarding the central concept of the research – ‘sustainability’ as it shed a light on how the concept is understood in theory in general and by business. That is why the first task which will help to make the conclusions for our problem statement is the clarification of what ‘sustainability’ does mean for the Norwegian O&G offshore supply companies in the context of ‘project engineering’ using the deep knowledge gained through the case studies.

The next point of departure for our future discussions is the specification of means for ‘sustainability disclosures’. As we have defined there are many ways of how an organization communicates registered and measured sustainability data. As well the content of disclosed sustainability information will vary from organization to organization according to how the concept of sustainability is understood. So, the main point here is the discussion of the extent to which the Norwegian offshore supply companies produce sustainability disclosures.

Finally, the process of how ‘sustainability disclosures’ are institutionalized in the Norwegian O&G offshore supply industry using the proposed pattern. In this section we will analyze the

environment of 'sustainability disclosures' production (identifying the crucial rationales of the issue), then – the mechanisms of how companies do produce 'sustainability disclosures'. The system of these mechanisms will be analyzed through the systems of Norm and Actions, where Norms are the regulative (mandatory) and normative (voluntary) frameworks for disclosures and Actions are the practical sustainability disclosure processes in the offshore supply companies.

## **Chapter 3. Methodological reflection**

In this chapter the methodological choices are presented which we have made during the writing of this master thesis. We explain first our approach to what constitutes scientific knowledge, continue with description the dimension in which conclusions were achieved and conclude by presenting how this study was designed; here a categorization of the research is engaged as well as a detailed description of the data collection procedures, documentation, coding and analysis. The chapter ends with the estimation of validity and reliability and strengths and weaknesses of the chosen design.

A specification of research methodology is considered as the most important and necessary step in conducting a scientific study. So, what does methodological framework means in general? According to Easterby-Smith et al. (2007) methodology is combination of techniques used to enquire into a specific situation. It is impossible to avoid this part, because it is a core of any study which shows a strategy of research execution and provides a researcher with tools for primary and secondary data collection and checks the validity and reliability of research findings. First of all, methodology aims to give clear answers to the following questions:

- What is the appropriate research design?
- How will we answer our research questions? Which kind of data do we need to gather? What are the methods for this data collection?
- How will we organize and summarize the data we've gathered?
- What answer do our findings provide to stated research question? Are these findings valid and reliable enough?
- What conclusions can we make from our findings?

### **3.1 Philosophical position: choosing research paradigm**

The important stage of any scientifically based research process is the identification of a scientific research paradigm. According to Shuttleworth (2008) a scientific paradigm, in the most basic sense of the word, is a framework containing all of the commonly accepted views about a subject, a structure of what direction research should take and how it should be performed. So, a paradigm, for short, is a way of writing a research paper if we speak about its technical level, where it is used to specify the methods and techniques which ideally should be adopted when conducting research (Collis and Hussey, 2003).

Our research stands on the assumptions about our interpretation of the reality of sustainability disclosures and the way we will understand their implementation. So, there is need to define ontology (understanding the nature of reality) and epistemology (assumptions about the best ways of getting knowledge of world's nature) of a scientific paradigm we are going to choose. Traditionally, researchers refer to two widely-applied contrasting paradigms: positivism or social constructionists' framework. The former stands for the externality of the social world, and its properties should be measured through objective methods...rather than through sensation and intuition (Easterby-Smith et al., 2008). On the contrary, the latter "emphasizes with socially created nature of social life (Marshall, 1994), so it is a social creation, constructed in the minds of people and reinforced through their interactions with each other (Denscombe, 2002).

One of our primary questions refers to the production extent of sustainability disclosures. By this reason ontologically this issue may be investigated through relativist scientific approach on the one hand. We have made an attempt to organize a large-sample survey to contribute to the topic in frames of the participants' list of the Norwegian Shipowners Association as previously we have known quite little about the nature of problem especially within its O&G offshore supply dimension. Despite time limitation and the large scope of involved enterprises the positivistic approach is feasible for us because we got a full list of the NSA participants and had a possibility to look through and evaluate their sustainability disclosures generated in different forms through the set of criterions.

On the other hand the research is based on the approach of social constructionism. It has been driven through the cases of three O&G offshore service suppliers involved in the NSA to go in-depth identifying the definition, reasons and mechanisms of sustainability disclosures. It helped us to answer the primary questions "why" and "how". The concept of sustainability is recognized differently at the chosen enterprises, so the preferable research paradigm is the social constructionists theory because we need to understand how sustainability issue and institutionalization of disclosures are perceived *internally* - within their corporate environments and *externally* - what companies' stakeholders do think and feel of the problem and what are the means of pressure that drive to organizational change. We assume that ontologically we have two dimensions. The first one refers to the fact that sustainability may be explored from the position of subjective reality through human perception and reflection. According to the issue of sustainability reporting in the Norwegian offshore supply the ontology stands on the realism as the world is concrete and external, and science can only progress through observations that have a direct correspondence to the phenomena being investigated (Easterby-Smith et al., 2008). In

terms of epistemology we have surveyed the experience the NSA companies within sustainability disclosures referring to relativists' position. Although, we couldn't avoid the interaction of what was being explored in contrast to the positivistic approach. Finally, we want to add that the application of the research paradigm mixture influenced the choice of research design, methods of data gathering and the process of research development.

### **3.2 Choosing research design**

Having identified and developed the research question we need to make a choice of a research design. In general words research design can be described as a detailed framework for conducting a management research that specifies the guidelines of how research will be done towards achievement of its aims. Also research design is defined as a logical sequence that links the empirical data to be collected (and the conclusions to be drawn) to the initial questions of study and its conclusions (Yin, 1994). A researcher is provided with various types of designs and the choice is extremely essential for writing a thesis.

It is assumed that the process of research design development flows directly from the type of research questions. Also the choice of design could be affected primarily by existing gaps on the research problem after conducted literature review. In accordance to the research question types methodology distincts between three approaches: explorative, descriptive and causal. The goals of these designs are to explore, to describe, and to establish cause and effect respectively. According to our research problem we propose the combination of two approaches appropriate: explorative and descriptive. The following empirical section of our study consists of two comprehensive parts which correspond to these approaches: case studies of the particular companies and the survey of reporting standards distribution.

#### **3.2.1 The explorative approach**

The section of case studies presupposes the explorative approach as a basis. We investigate the practice of 'sustainability disclosures' in the Norwegian O&G offshore supply companies listed in the NSA. So, we know little about the issue stated by the reason that there are few prior researches on this topic.

What concerns our case studies of Acergy and Technip, at first, we answer why we have chosen particularly these two offshore supply companies. Why have we chosen these two companies for the research framework of 'sustainability disclosures' production? The first reason is that it was a contact person from Acergy which provided us with the initial list of research questions related

to the new topic of sustainability disclosures and relevant for the company at that moment. The case of Technip was taken, because it is a primary competitor of Acergy in the offshore supply cluster. The next reason is that Technip has been reporting on sustainability since 2003 applying GRI standard. So, we have taken two totally different O&G offshore supply companies in terms of their understanding of sustainable development and the different extent of ‘sustainability disclosures’.

The explorative section of the research defines the following sub-question: “What are the reasons and challenges sustainability reporting implementation?” The issue of sustainability disclosures is new, particularly for Acergy, though its primary competitor Technip Norge has already been producing disclosures on sustainability using the international GRI standard and G3 guidelines. In this case we need the answers to make a good exploration to clarify the following problems: “How the is sustainability concept being defined in the chosen offshore supply companies?”, “What elements of sustainability reporting have been already applied?”, “Who are the main company’s stakeholders?”, “What is the level of accountability and transparency of these companies to these stakeholders?”, “What are the mechanisms behind the application of sustainability reporting?” Finding out the answers to these questions is quite essential for our research as we need to analyze the processes and events with response to corporate accountability and sustainability reporting as they actually are. So, we assume that the choice of explorative approach is appropriate to conduct an in-depth analysis of sustainability disclosures in the O&G offshore supply companies.

### **3.2.2 The descriptive approach**

The descriptive approach provides a base for the empirical survey sub-section that carries out the distribution of sustainability disclosures. Riley et al. (2000) states the evidence of informative character of a descriptive process as it tends to avoid the explanation and investigation of reasons like in the explorative case above. But, we see the usage the descriptive approach as necessary because we want to know what is actually going with sustainability disclosures in the Norwegian O&G offshore supply companies.

A set of sub-questions identifies the extent of sustainability disclosures within the offshore supply companies being a part of the NSA: “What is the distribution of ‘sustainability disclosure’ types within the NSA members / the offshore supply cluster?”, “How many companies in the NSA / the offshore supply cluster are publishing web-based sustainability data, separate sustainability reports, joint reports?”, “What are the SR standards and guidelines that

dominate within the NSA participants / the offshore supply cluster?”, “What estimation can be given to the addressing economic, environmental and social issues in these reports?” In light of these questions we suppose it as extremely interesting to assess the content of different sustainability disclosures. This can give an indication of how important ‘sustainability’ is stated in a company and also how well it is integrated in its business process.

### **3.3 Choosing research strategy**

A choice of research strategy is required by a research design. A number of strategies could be used in frames of the chosen research design, for example, survey methods, experimentation, histories, time series, archival analysis and case studies. For the descriptive section the strategy of survey method for evaluation of applied criteria is the most relevant. For the explorative section we assume the case study strategy as the best suited in order to go in-depth and explore the particular entities. It helps to consider “why?” research questions, especially when we as the investigators face the lack of control over events. Robert Yin (1984) defines a case study as an empirical inquiry which investigates a contemporary phenomenon within its real-life context: when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.

As our investigation is related to the issues of ‘sustainability disclosures’ in the particular industry in Norway we, at first, should get a better insight into the problem. The business entities included in the survey were the 117 companies which considered as the participants of the NSA engaged in the different activity clusters: maritime logistics, shipping management and investment, cruise passenger transportation, O&G downstream, offshore subsea service, offshore shipping service, offshore drilling, engineering consultancy, vessel engineering and construction. The list of companies originates from the official web-page of the NSA ([www.rederi.no](http://www.rederi.no)). The final number of companies included in the survey is 106, which means we have excluded 11 companies by the reason that their web-pages were unavailable or under construction.

The first objective of the survey is to find out how many companies in the NSA have been disclosing data on the issues of sustainability: economic, environmental, social, and identify the distribution between the joint, separate reports and publishing data directly on web-page without generating a specific report. Additionally, it is crucial to work out what standards are applied and which seem as dominating. A number of companies use different methods to disclose the sustainability data. Every company has its own understanding of sustainability and what is worth disclosing. Another important objective is to find out the distribution of standards, management



systems and other guidelines via the NSA participants and the offshore supply companies, particularly.

The empirical chapter evaluates sustainability disclosures in different forms. Certainly, not all the reports are named directly as Sustainable Development reports, but also we have looked through CSR, health, safety and environmental, corporate responsibility reports. The analysis of 'sustainability disclosures' extent within the NSA members bases on four different criterions. First, an assessment of a company's general sustainable development reporting has been conducted. Following this, disclosing data on three additional criterions has been considered: Management Systems, Codes of Conduct and Supply Chain Management. These three criterions provide more detail and generate more comprehensive information on how the sustainability disclosures are embedded in the organizational everyday practice. In our research we have adopted the methodology from the recent research of CSR reporting in 100 biggest Norwegian companies. It comprises four criterions:

**Criterion 1 - General Sustainable Development.** This criterion captures the general impression a company gives of its interpretation and management of sustainable development. The reporting is evaluated in terms of the company's own operations. We examine how the companies report on central and relevant challenges, as well as on the presentation of figures, measures and goals.

**Criterion 2 - Management Systems.** This criterion refers to a company's description of how, in an organizational and practical sense, it ensures that SD is managed within the company. This means that the company must inform about the management mechanisms and control systems that exist for ensuring that the company's SD policies and codes of conduct are monitored, and that deviations are uncovered and rectified. Reporting on various types of environmental and social certification systems such as ISO and EMAS, as well as information about delegation of responsibility and whether responsibility is consolidated at top management, line management level or in a separate department/division within the company is also included in this criterion.

**Criterion 3 - Codes of Conduct.** This criterion examines established codes of conduct for companies' conduct with respect to SD. This can include themes such as environment, corruption, HSE, employment conditions etc. It should be guidelines adopted by the concern as a whole and comprise items with an overarching, entrenched policy. However, it is not enough to present overriding policies and goals, points are only awarded to those who explicitly present these policies and goals as specific codes of conduct.

**Criterion 4 - Supply Chain Management.** The fourth criterion evaluates how a company communicates what SD demands it makes towards its suppliers on environmental, social and ethical issues. This involves looking at explicit demands made of suppliers, for instance in the form of a code of conduct. A company’s profile on supply chain management sends out signals – not just to suppliers, but also to other stakeholders – about the kind of conduct the company does and does not accept.

We’ve made an evaluation of sustainability disclosures on each of the 4 criteria above in terms of five estimation levels which vary from the lowest 0 to the highest 4 score. The following scale chart categorizes reporting on each of the criteria:

<b>Level 0: Not mentioned</b>	Theme not mentioned.
<b>Level 1: Mentioned</b>	Theme briefly mentioned in general terms, but minimal reporting on own operations. Alternatively, theme dismissed as irrelevant.
<b>Level 2: Insufficient</b>	Theme described with reference to own enterprise, but reporting has major deficiencies with respect to content and presentation.
<b>Level 3: Satisfactory</b>	Theme described and analyzed with respect to own operations. Problems are identified and challenges and solutions are considered, but reporting has some deficiencies with respect to content and presentation.
<b>Level 4: Very satisfactory</b>	Theme is described and analyzed systematically and comprehensively with respect to the company’s operations. The company demonstrates an integrated and overall perspective.

In the evaluation of sustainability disclosures, we have chosen the concept of ‘sustainability’ as a reference for the assessment. This approach aims to cover environmental, social and economic aspects of the firm’s activity. In this case, the economic dimension does not include traditional financial reporting, but business ethics and a company’s economic impact on society, related to issues like local value creation, competence building, innovation and entrepreneurship. The four criteria already mentioned: General SD, Management Systems, Codes of Conduct and Supply

Chain Management are therefore divided into three dimensions in accordance with the concept of 'sustainability': environment, social responsibility and economy.

The explorative part of our research stands on the case studies of two particular companies. It seems to us that it is a quite a complicated task to quantify the reasons and mechanisms of sustainability and that is why the implementation of case study strategy is especially useful. So, the main reasons of choosing this research strategy are: 1) the problem investigation needs the answers for why and how questions; 2) it is impossible to quantify the perception sustainability and sustainability disclosures by employees of the companies; 3) the main focus will be on contemporary rather than historic data.

### **3.4 Data collection methods**

Following the scoping exercises of the sample survey and the case study purposes, a researcher begins the formal process of collecting the data to be included. Successful data collection is driven by a clear statement of objectives. It is useful to plan the data collection process, including the types of data you want to gather and the techniques and sources you will use to collect it around these objectives (Naumes and Naumes, 1999). Certainly, we had to plan accurately how and where we would collect relevant primary and secondary data with regard to two different research strategies presupposing the mix of quantitative and qualitative methods.

As for the quantitative approach for data collection its advantage bases on the relative ease and speed with which the research can be conducted. But the analytical and predictive power which can be gained from statistical analysis must be set against the issues of sample representativeness, errors in measurement and qualification, and the danger of reductionism. Qualitative data collection methods can be expensive and time consuming, although it can be argued that qualitative data in business research provides a more 'real' basis for analysis and interpretation. Moreover, a qualitative approach presents problems relating to rigor and subjectivity (Collis and Hussey, 2003).

The nature of the research method we apply consists of two parts: quantitative and qualitative. The quantitative part of the research bases on the estimation of secondary data taken from a number of companies. So, it is important to describe the selection for the further analysis. In total, we have selected 117 companies-participants of the NSA to define and estimate the extent of sustainability disclosures and assess how economic, environmental, social issues are addressed in the disclosures. This analysis was based on the secondary data. The list of 117 companies was found on the official web page of the NSA, though 11 units were excluded as their pages were

not available. Finally, the survey we have conducted includes 106 entities. Their sustainability reporting has been taken either directly from web-pages either from attached joint / separate reports, codes of conduct, corporate policies, board of directors' reports etc. The additional survey has been done to identify what particular reporting standards and guidelines are currently applied and find out the domination within the scope of these standards via the NSA companies.

The qualitative part of the research stands on the investigation and comprehension of human behavior and attitudes. We searched the answers for questions like “why”, “in what way”, “how” relying on the openness of the empirical data gathered. The researcher tends to have a subjective approach towards the subject matter and he/she is considered as the primary data-collecting tool. The qualitative analysis is focused on understanding the point of view of the respondents, on interpretation and observations in natural environments. The main difficulty with qualitative research is that the results found cannot be generalized to a wider population as compared to the findings of quantitative research (Alvesson, 2003).

According to Robert Yin (1994) the main methods of data collection for case studies rely on many sources of evidence including the analysis of documents, interviews, observation of participants, archival records and physical artifacts. Concerning the choice of data type, we often distinguish between primary and secondary. Certainly, it is effective to use the combination of sources in frames of our research topic.

So, we consider the usage of in-depth interviews as the most critical source for the case study strategy. They can vary from structured formalized and semi-structured ones to unstructured informal dialogues (Pervez et al., 2005). The complexity of understanding the concept ‘sustainability disclosure’ and its production is quite high, so a set of face-to-face interviews is the best for data collection as it will provide the study with a better insight into the problem, good response rate, possibility of in-depth questions. However, this method is very time-consuming and the problems of geographic limitation and research funding amount arise. Also sometimes it is a problem to get an access to an interviewee. Moreover, the disadvantage of interviewing stands on respondent bias and possible embarrassment in case of personal questions.

The quantitative part of our research bases on the deep analysis of available secondary data. We have taken corporate internal documentation as well as the external published sources like relevant literature and scientific journal articles, published sustainability reports of the chosen companies and web sources as well. In the process of secondary data reviewing, at first, it is

useful to study the general information about the Norwegian O&G offshore supply industry and the activity of the chosen companies, in particular. The next step is to use literature and articles for determination of the main concepts of study and the theoretical framework applicable to the research problem. For empirical part it is important to apply to internal corporate documentation on economic / social / environmental reporting as well as the already published sustainability reports by competitors. According to Yin (1994) documents are helpful in verifying the facts, otherwise contradictory evidence calls for further research. The main advantages of using secondary information are the high value and little time consumption, relatively low costs, in some cases it may be the only data available at the moment. The limitation is often associated with criticism of reliability and possible researcher's mistrust to independent sources of data, collected for a purpose other than the one with which a researcher is currently concerned (Easterby-Smith et al., 2008).

The following point is a description of research process development, which will include a choice of respondents and guidance for interviewing. Before we started our paper we hadn't decided how many respondents would be needed for interviewing in order to get enough clarification because sustainability could be explained differently on different corporate levels. The personal interviews were performed with the following respondents from Acergy AS: a project manager as "the key informant" (Yin, 1994) which helped us to select other employees that also contributed into the research; an environmental advisor; a representative of HSE department; an offshore engineer; Technip Norge AS: a manager involved in the QHSES routines. Each interview lasted between 40 and 60 minutes on an average. The reasons of choosing exactly these respondents for personal interviewing are: 1) they have a broad knowledge of processes inside the company and the overall situation in the industry; 2) they have experience and competence in questions of economic indicators and environmental / social / technical corporate issues as well; 3) the interviewees who stand on power may provide us with deep understanding of moving towards sustainable development and the production of sustainability disclosures. Certainly, we have run into the challenges during the research process. They were the lack of respondents' personal time, their availability at the office in Stavanger where the interviews were conducted.

As we analyzed the reasons, mechanisms and challenges of sustainability disclosures in the O&G offshore supply companies, it has appeared important to clarify the list of themes for interviews. Although, the duration of interviews differed and the number of questions varied from one interviewee to another. The first section of questions was dedicated to initial data and

included the questions about history and development of organizations, corporate objectives and strategies, structure and technology of operations. The second section concerned the extent of sustainability and corporate accountability understanding in the company: perception and recognition of sustainability on different organizational levels. The third section was about reasons and challenges for becoming sustainable and accountable to external stakeholders, determination of the main external stakeholders, and evaluation of possible benefits. The interview guide is provided in the Appendix.

### **3.5 Validity and reliability**

Referring to Schell (2002) developing criteria for evaluating case study methodology requires logical tests of the validity and reliability of the research tactics that have been used or are planned. This test is considered as a necessary part of any research and researchers are usually familiar with it. Traditionally one should go through construct and external validity as well as reliability.

Construct validity is especially indispensable as it bases on establishing correct operational measures for the concepts being studied (Yin, 1994). Construct validity test stands on the qualification of operational set of measures, and it is extremely important during the process of data collection. Schell (2002) claims that multiple sources of evidence, with convergent lines of enquiry, and clearly established chains of evidence support construct validity during the data collection phase of the research. Having key informants reviewed draft case study reports supports construct validity during the data collection phase. In other words construct validity refers to the degree to which data collected is relevant to the theoretical framework on which this data collection bases – whether what you observed was what you wanted to be observed (Trochim, 1999).

As it was stated above we adopted a system of ‘sustainability disclosures’ criteria for the quantitative part and rate them using a score scale from 0 to 4. Certainly, other effective methods could be implemented here, another scale might be suggested. But we confirm that particularly this system can provide a high rate of validity because earlier it was presented in the previous research of CSR in the 100 largest Norwegian companies.

In frames of case study strategy it was a critical point of our work to receive the information from respondents involved particularly in the Norwegian O&G offshore supply operations and competent in the questions of sustainability disclosures. As we tried to measure the latter concepts we should realize what we really do measure. In order to avoid misunderstanding and

misinterpretation it was necessary to get explanations on each difficult point of every interview, also the notes of interviews were verified by our informants to find out the mistakes.

External validity tests the ability of the research program to produce results which can be generalized beyond to other cases (Schell, 2002). As the qualitative research has been conducted within the case studies external validity could be replaced by the concept of transferability which stands on the ability of research results to transfer to situations with similar parameters, populations and characteristics (Lincoln, 1986). So, it means how our findings concerning the reasons and mechanisms of sustainability disclosures in Acergy and Technip could be generalized to the activity cluster of the NSA they involved into.

The final test expected is reliability, which implies demonstrating that errors and biases in a research are minimized by proving that operations, such as the data collection procedure, can be followed by another investigator with the same results (Yin, 1994). In its everyday sense, reliability is the “consistency”, “compliance” or “repeatability” of measures. The quantitative survey strategy challenged one critical thing: the process of criterions rating could lead to highly subjective opinion and inconsistent evaluating. That is why the process was conducted independently by two persons. Afterwards we made a comparison of our assessment. Where they differed too much, we came to an agreement after additional review of a report. So, we could be sure that our ratings were as balanced and consistent as it was possible for all the enterprises in the survey.

During case studies’ conduction we expected to get a lot of data during face-to-face interviews. In order to avoid bad interpretation of information collected we used the tape recording of interviews and presentation of our hand notes to the informants for final verification. In our opinion, the use of tape recording contributed a lot for ensuring reliability as it made possible the direct refers to informants’ quotations, thus recording was used with respect to an interviewee’s permission which had been negotiated in advance.

### **3.6 Ethical aspects of research**

This section aims to highlight the aspects of ethical regulation in the research field of sustainability disclosures. The conduction of this point has a huge importance because it is strongly required by scholars. As the essential part of the research is considered as qualitative we tried to go through several ethical principles for social sciences suggested by Bell and Bryman (2007). The authors assume the protection of interests of research informants, ensuring accuracy and lack of bias.

We as researchers must follow the established principles in order to conduct a responsible study. The first aspect is ensuring the confidentiality of research data which has been gathered during the set of interviews. Despite the subject of sustainable management seems to be abstract and far from business secrets at a first glance, the issue of reporting on sustainability, no doubt, refers to some internal confidential information about economic, environmental and social indicators which require extremely careful usage. This information which we have got, certainly, through interviews should be applied only in frames of the research. That's why it is a compulsory thing for us to sign a document that we would never use corporate data for external publishing and achievement of personal goals in the future.

The next critical point for research ethics suggested by Bell and Bryman (2007) is avoidance of misleading, false reporting of research findings. The neglect of keeping accurate recording and errors can lead to irremediable negative consequences for a researcher as well as for a business entity which may use false research findings in its development strategy, for example.

Also the problem a qualitative researcher often runs into is the extent to which a study is objective. From the position of ontology, a subjective opinion of a researcher may dramatically influence the understanding and consideration of problem's nature. Still, in our view, personal perception will always affect the objectivity, but it depends on a person who conducts an exploration and his / her experience, how a researcher does interpret information and try to avoid bias etc.

Finally, it is necessary to be convinced that the communicating about research stands on the principles of honesty and transparency. In our opinion, these points refer to life experience and personality of researchers. A procedure of any scientific study should be conducted in an honest way as some positive contribution could be made to scientific field of sustainability reporting and the private interest of the companies we have analyzed. So, the adequate implementation of mentioned principles in combination with research guidelines is a necessary requirement for conducting a qualitative exploration.

### **3.7 Strengths and weaknesses of the chosen design**

The final section of the methodological reflection is dedicated to the critical overview of the strengths and weaknesses of the chosen research design involving quantitative as well as qualitative methods. The chosen research design bases mainly on the paradigm of social constructionism but with an insight to relativism. So, the quantitative approach is used for



'sustainability disclosures' extent determination, the qualitative approach is the most appropriate for researching the reasons and mechanisms of reporting through the case studies.

Easterby-Smith et al. (2008) states the evidence of the strengths of relativist approach: it accepts the value of using multiple sources of data and perspectives; it enables generalizations to be made beyond the boundaries of the situation under study; and it can be conducted efficiently, for example, through conducting any survey work...The weaknesses are that large samples required if results are to have credibility, this may be costly and time consuming; they cannot accommodate institutional differences. This means that surveying of all NSA companies gave us the possibility to explore the industry and the overall extent of sustainability disclosures; finally, we could generalize the results. However, we needed enough time to make an assessment of 106 companies. And the weak point of survey was that we couldn't make assumptions why a particular result had been revealed. We could only reflect the statistic distribution of SR criterions' estimations.

What concerns the social constructionism approaches: at first, they have ability to look at how change processes over time; furthermore, they give an understanding of people's meaning or work out new theories. They also provide a way of gathering data which is seen as natural rather artificial. The author also provides us with weaknesses which stand on fact that data collection is very time- and resource consuming, and the analysis and interpretation of data may be very difficult, and this depends on the intimate, tacit knowledge of the researcher. Moreover, qualitative approach is often felt very untidy because it is harder to control its pace, progress, and end points (Easterby-Smith et al., 2008). One more weakness for the usage of social constructionism paradigm is the 'opinion subjectivity' which may decrease the level of research credibility. So, this was the short review of the strengths and weaknesses of social constructionism, the next thing we are going to do is the revision of the topic in details.

The first strength is that qualitative research design is useful for exploring a limited number of cases in depth. In frames of our future research we explore the case of a particular company in order to get deep understanding of movement towards sustainability disclosing process. The concepts of sustainability and sustainability reporting are complex by their nature that is why description of the complexity should be made through applying the qualitative research design. The next strength we see important for the research is the possibility for cross-case comparison and analysis, because the case of Technip (the competitor of Acergy which has been already reporting on sustainability) was included into the study. Mostly we have dealt with the qualitative data rather than quantitative, so the strength of design here is the description of

phenomena through insiders' viewpoints (personal experience, perceptions, thoughts etc.) Consequently, we have been able to describe the phenomena of sustainability disclosures in details as it was embedded in the contexts of two O&G offshore suppliers. The use of qualitative research design was especially responsive and useful in stakeholders' theoretical framework in case of the Norwegian O&G offshore supply industry, which may become an essential part for the future research.

Having identified the strengths of qualitative research design the following step is the specification of its weaknesses. Especially we are to give the critical insight of the case study research strategy in the chosen design. Schell (2002) assumes that many of the criticisms of the case study method relate to the highly labor intensive nature of this research strategy. Miles (1979) suggests that the added degree of energy required is responsible for generating much researcher stress, something that may be especially pronounced in the case of the lone fieldworker. It is true that conducting a case study generally takes more time to collect the data when compared to quantitative research, for instance, it is not time-consuming at all to download the reports and published statistical data or e-mail your informants in comparison with long process of negotiating the time and place of meeting with an informant and, in addition, geographical and travel costs factor may increase the time of work.

Miles (1979) suggested that one of the most serious criticisms is that unlike quantitative research, there are few conventions the researcher can rely upon to defend him/her self against self-delusion or the presentation of 'unreliable' or 'invalid' conclusions. Also the results of our research are easily influenced by the researchers' or informants' personal biases.

One more critical challenge claims that there is little basis for scientific generalization (Schell, 2002). The implementation of case-based analysis concerns the fact that knowledge produced might not generalize to other people or other settings. It means that findings of a research might be unique to the relatively few people or companies included in the research study. In this case external validity, or better to say transferability, suffers because of the probable lack of generalization. The final findings for the chosen offshore supplying companies can become distinct case studies which, for example, are unable to be applied to Norwegian Shipowners' Association in general.

## Summary

Summarizing the section of methodological reflection we have come to the following points which help us to conduct the empirical part of the research. The most important point is the identification of the appropriate research design.

In frames of our work the application of two approaches (explorative and descriptive) seems fair to use. The descriptive approach provides the base for the implementation of survey method to identify the extent of 'sustainability disclosures' production within the NSA members and its part – O&G offshore supply companies. Survey method helps us to find out the distribution of different disclosure types, the distribution of sustainability reporting standards and guidelines within the chosen context of the research. The explorative approach presupposes the use of case study method to go in-depth to know the problem of the 'sustainability' concept and 'sustainability disclosures' production better (gaining the knowledge about the rationales and applied mechanisms) in the particular companies in the offshore supply cluster, Acergy and Technip Norge.

Data collection methods are based on the quantitative as well as the qualitative dimensions. The data collection related to the quantitative method bases on the analysis of secondary materials like internal and external corporate sustainability reports, web-based data on web-pages, state statistics etc. The qualitative method supposes the primary data we have got through the conduction of interviews with the employees of case companies competent in the questions of non-financial data and decision-making. As well, we have defined the ethical requirements which we have followed during the conduction of our research, and discussed the issues of validity and reliability of findings.

## **Chapter 4. Empirical part**

### **4.1 The environment of ‘sustainability disclosures’ production**

#### **4.1.1 O&G offshore supply as a research context**

The oil and gas sector is one of the most lucrative business sectors in Norway which contributes essentially into the national economic development. But the issues of reducing its negative environmental and social impacts are the most pressing today for all the companies involved in this industry. Practically, all the activities of hydrocarbon operations are executed in the offshore on the Norwegian Continental Shelf. The operations in the open sea are accompanied by undesirable discharges of liquid, solid, and gaseous wastes, which have enormous impacts, especially in the marine environment as well as the high risk of employee injuries and incidents. In questions of corporate accountability and transparency there is a need to incorporate or / and improve a managerial approach in O&G that can organize the comprehensive disclosure process concerning the impacts.

Norwegian Oil and Gas industry, and particularly its offshore supply dimension, has a lot of peculiarities according to sustainable development as its impact seems considerable with regard to the ‘sustainability’ dimensions: economic, environmental and social. The two latter can be especially outlined as they are always under the strict observation of authorities and clients. It is an important topic when we speak about how, why and to what extent an O&G midstream company reports non-financial data on environmental impact and health, safety and security issues.

The sustainability disclosure issues are important as offshore oil and gas operations and their impacts are different from the land-based oil and gas activities. But, on the one hand, the dimension of O&G offshore supply is seen as an essential contributor into the development of the Norwegian O&G industry and the national economy. If we look at offshore supply companies profiles we may be persuaded that they apply the forefront clean technologies and hi-tech methods in their operations. According to this offshore supply seems as environment- and society-friendly maritime business activity which produces minimal harm to the environment and considered as totally safe. However, the awareness of stakeholders’, except clients and government, about offshore supply operations is quite low as these operations are primarily business-to-business oriented and most of the time the vessels operates in the open sea, so the general public has few encounters with it compared to most land based businesses (Staalstrøm, 2005). The second reason is that maritime operations have traditionally maintained a low media

profile, and when they occasionally draw some attention, it is usually due to some negative event, i.e. an oil spill. This has contributed to a growing concern within the offshore suppliers-shipowners as to what image they project to the public (Dahlsrud, 2001).

Due to these assumptions the development and maintenance of ‘sustainability disclosure’ production in the O&G offshore operations are needed. It may ensure minimal negative environmental and social impacts with appropriate mechanisms of disclosure. In trying to achieve these goals the NSA participants from the offshore supply cluster have been adopting the various approaches and methods related to sustainability disclosures production.

#### 4.1.2 O&G offshore supply operations: what to register and measure

Before the generation of sustainability disclosures and the communication of results the stages of registration and measurement need, at first, the identification what to register and measure. In terms of sustainability we have already mentioned the three crucial dimensions relevant for the offshore supply operations: environmental, social, and economic (with no relation to financial KPIs).

Speaking about various impacts, all the activities of hydrocarbon offshore marine operations are accompanied by undesirable discharges of liquid, solid, and gaseous wastes, which have enormous impacts, especially in the marine environment. In addition, the subsea operations put under a huge risk the occupational health, safety and security. To make some clarification of the registration and measurement the table below shows the main phases of offshore O&G development and the environmental impacts produced:

*Table 3. Technological phases of O&G offshore development and types of wastes generated (Source: Khan and Islam, 2007)*

<b>Seismic exploration</b>	<b>Construction, Installation and Drilling</b>	<b>Production</b>	<b>Decommissioning</b>
When a license is issued, the proponent is given 5 years to explore the resources. The actual process may be 20 to 30 days. <b>Impacts:</b> sounds, associated wastes, human-generated wastes	Generally 3-5 years, including onshore fabrication, installation, & commissioning. <b>Impacts:</b> drilling cuttings, storage displacement	Depending on the size of the reserve, the production phase can last between 25-35 years. <b>Impacts:</b> production water, deck drainage, ballast water, well	Proponents require preparing a decommissioning plan; however, no information on time frame of decommissioning activities was found. <b>Impact:</b> abandoned structures, cut pieces of oil structures, scrap materials.

	waters, ballast water, water for fire control tests, GHG emission, deck drainage, cooling water, accidental discharges, human-generated wastes.	treatment fluids, water for fire control tests, GHG emissions, human-generated wastes.	
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The internal social dimension of sustainability disclosure within the O&G offshore supply companies encompasses the registration and measurement of the following parameters: number of fatalities, serious injuries resulting the possible disability, serious injuries, medical treatments, material damage incidents, high-risk incidents/conditions, lost-time injuries, injuries resulting in alternative work, closed/completed measures related to undesirable events, ongoing measures related to undesirable events, overdue measures related to accidents, new incidences of suspected work-related illness, sickness absence as a percentage etc.

The external social dimension refers to the aspects of Corporate Social Responsibility like social investments, pensions and compensations etc. The socioeconomic dimension registers and measures the aspects connected to corporate governance, business ethics, anticorruption etc.

Having identified the points of what to register and measure, the next stage is to specify the tools for communication. In our case, these communication tools are reflected in the norm level of sustainability disclosure which includes mandatory either voluntary reporting standards, guidelines etc.

## **4.2 Norm level of ‘sustainability disclosures’ for the NSA participants**

### **4.2.1 Preface**

As it has been specified in the theoretical framework the overview of ‘sustainability disclosure’ norm system relates to the range of accepted SR standards, international or local regulations and normative recommendations emerged for corporate sustainability disclosure. Hence, the norm system within the participants of the NSA will be considered from two institutional structures: regulative and normative.

The regulative framework is reflected in the form of international and local governmental or industrial legislative pressure. In this case we speak about the mandatory disclosures from the

NSA participants with accordance to international legislative basis for ‘sustainability’ data (e.g. the EU / EEC directives, the IMO’s MARPOL convention) and the Norwegian national legislative basis (Norwegian Accounting Act, Norwegian Pollution Act etc.). Additionally, there is one more Norwegian standard NORSOK related to the assessment of HSE activity and disclosure within the on- and O&G offshore construction operations. This industrial HSE standard is developed with broad petroleum industry participation by interested parties in the Norwegian petroleum industry. The NSA participants play a role of agents, while their stakeholders are the principals with particular needs and expectations of sustainability data on economic, environmental, and social issues.

The normative framework relates to the voluntary setting of sustainability reporting standards and guidelines. The adoption process of these norms by the NSA participants, called the normative isomorphism, is reached through professionalization, formal education and professional network where the mentioned values and norms are acquire. Hence, organizations commit to these values and norms not through the coercion or imposition, but through the legitimate authorities of norms and values. So, the normative basis for the NSA implies the following international frames: the GRI standard for sustainability reporting, the ISO or EMAS certification as a part of corporate environmental management system, the commitment to OECD guidelines and / or 10 principles of UN Global Compact, the commitment to ‘Achilles’ database qualification system (internal buyer-supplier management system for the O&G industry); and the commitment to the local Norwegian EMS “Miljøfyrtårn”.

## **4.2.2 Regulatory framework of ‘sustainability disclosures’**

### **4.2.2.1 The IMO regulations**

The working process of the NSA companies supposes the exploitation of different vessels regardless the activity cluster. Traditionally, within the Norwegian shipping, there has been an on-going process to maintain the compliance of national legislative acts and international legal basis. This has been done to avoid the requirements’ collision in different harbor states. The International Maritime Organization (IMO) has developed the specific framework within which a large set of international conventions has been included. These conventions comprise the issues of safety and environmental issues in international shipping (IMO, 2006). The relevant legislation for our research is the MARPOL convention (IMO, 1973/1978). In addition there are conventions concerning anti-fouling and ballast water, but they are not yet ratified by enough countries to have entered into force (IMO, 2001; IMO, 2004). The IMO conventions that have

entered into force are to be implemented by the states that have ratified them. This is usually done by incorporating the requirements of the IMO conventions into the national legislation (Dahlsrud, 2001).

In particular, the reporting of environmental issues in the MARPOL 73/78 (International Convention for the Prevention of Pollution from Ships) is reflected in the following amendments:

- 1985 IMO Amendment (in force since 06.04.1987): an explicit requirement to report incidents involving discharge into the sea of harmful substances in package form;
- 1996 IMO Amendment (an improvement of 1985 guideline): provision of reporting incidents involving harmful substances.

The data on environmental impact of shipping is registered by the International Maritime Organization, which assess the overall tendency which concerns the emissions and other discharged in the open sea.

#### **4.2.2.2 The EU / EEC directives**

According to the relevant shipping research of Dahlsrud (2001) the European Union (EU) has developed stricter legislation than the IMO requirements currently in force on at least two 'sustainability' reporting dimensions. One is regarded to reporting the data on SO<sub>x</sub> content in ship fuel and one concerns the faster phase-in of double hull oil tankers (EU, 2002; EU, 2005). Norwegian shipping companies are affected by these EU regulative developments, as Norway is a member of European Economic Community (EEC).

Dahlsrud (2001) states the evidence that the Norwegian national legislation encompasses EU directives and the IMO conventions that have entered into force. However, not all environmental or HS&S reporting regulations originate from the international level, and some are developed at the national level like the Norwegian Accounting Act. In our research framework, this is particularly relevant for the disclosure of 'sustainability' data on the issues which the Norwegian national government and society are interested in.

Additionally, the directive of European Union 2003/51/EC ("Moderniseringsdirektivet") which imposed some improvements into Article 46 in the earlier EU directive on annual accounts: "*To the extent necessary for an understanding of the company's development, performance or position, the analysis shall include both financial and, where appropriate, non-financial key*



*performance indicators relevant to the particular business, including information relating to environmental and employee matters”* (Directive 2003/51/EC of the European Parliament and of the Council, 18 June 2003).

#### **4.2.2.3 Norwegian Accounting Act**

Being a part of European Economic Area the Norwegian state adapts its national legislation with regard to the EU directives on non-financial reporting. Therefore, all enterprises officially registered in Norway which legally keep accounting recording are required within Norwegian Accounting Act to produce reports on three non-financial issues in the board of directors’ annual report. Either the relevant can be provided in joint or separate sustainability reporting. The following three issues are: External environment, working environment and gender equality (Norwegian Accounting Act, 2008).

The demand for environmental information in the directors’ report was added in 1998 on during the political reading in the Norwegian Parliament (Stortinget). The wording in the act itself is brief. It is what is written in the guidelines that are far more comprehensive. On several points the wording is different from what is common practice in connection with environmental management, working environment and reporting. On grounds of protection of privacy, companies who are legally bound to keep accounting records and who have employed less than five man-labor years no longer have to report on absences due to illness. It was also agreed that the annual reports of corporations who compiled group accounts should cover operations in the group. This means that for an ASA (allmenn aksjeselskap – a type of joint-stock company that must have minimum NOK 1000000 and a board with at least 3 members and a board leader) company it is not sufficient to provide information regarding the activities and employees connected to the ASA only. The board is also requested to report on the activities and employees related to the group, i.e. the enterprise as a whole (ibid.).

- Data on the internal working environment. The Section 3, Subsection 9 of the Accounting Act (1998) sounds as: *“Information on working environment and a summary of implemented measures that are significant to the working environment shall be provided. Information pertaining to injuries and accidents shall be provided separately. Separate information pertaining to absences due to illness shall in addition be provided by companies legally bound to keep accounting records who have a minimum of 5 man-labor years in the course of the financial year”*.

- Data on the external environment. According to Section 3-3a, Subsection 11 of the Act, a Norwegian-registered enterprise must annually report on the following conditions: *“Information concerning current activities, including production inputs and products, that could cause a not insignificant impact on the external environment shall be provided. Information on the types of environmental effects the different aspects of the operation has or could have, and what measures have been implemented or are planned to implement to prevent or reduce negative environmental effects shall be provided”*. Regardless the fact of publishing a separate environmental report, an enterprise must include in its annual report, generally, the following aspects must be of importance as having an effect on the external environment:
  1. Type and amount of energy and raw material consumed;
  2. Type and amount of pollution emitted, hereunder noise, dust and vibrations;
  3. Type and amount of waste generated or belonging to the enterprise, i.e. deposited residues, open or closed deposits, sediments in rivers, lakes or the sea etc.;
  4. Risk of accidents;
  5. Environmental load stemming from transport.
- Data on the gender equity. The Norwegian Accounting Act’s Section 3-3a, Subsection 10 refers to this sustainability issue in the following way: *“An account of the actual state of gender equality in the enterprise shall be provided. An account of measures implemented and measures planned to promote gender equality and to prevent discrimination contrary to the Gender Equality Act shall be provided”*.

#### **4.2.2.4 NORSOK standard for HSE**

The Norwegian ‘NORSOK standard S-012’ (revised in August 2002) defines mandatory requirements within health, safety and environment (HSE) related to construction and installation- activities on- and offshore, including marine installation activities; and these requirements must be implemented to each project execution. The standard attempts to define a process for the project through which all involved parties focus on risk, activity, responsibility, systematization and communication/reporting. The extent of standard application is agreed between the Company (which orders the project delivery) and the Contractor (which is responsible for delivery in accordance with the specific terms).

The Section 8 of NORSOK standard specifies the HSE data communication and reporting issue for the Contractor responsible for a project execution. The results and follow up of the

Contractor's control actions are to be made available to management, own personnel and the Company (NORSOK S-012, Subsection 8.1, 2002). All notifiable undesirable events or unsafe conditions that the Contractor is aware of are to be reported to the Company without undue delay, irrespective of where the event took place. The notification must contain a short description and time of the event. Then, it should be followed up with a written report at a later date. The report must include identified causes and measures (NORSOK S-012, Subsection 8.2, 2002). The periodicity of mandatory Contractors' HSE data reporting is monthly. This report is attached to the monthly overall project report. The following aspects should be included: 1) Activity plan with status of the individual activities; 2) Description of high-risk incidents and other relevant remarks to the results; 3) Other relevant information. The report should contain reporting on the following results and parameters: number of fatalities, serious injuries resulting in possible disability, serious injuries, medical treatments, incidents of harm to the external environment, material damage incidents, high-risk incidents/conditions, lost-time injuries, injuries resulting in alternative work, closed/completed measures related to undesirable events, ongoing measures related to undesirable events, overdue measures related to undesirable events, new incidences of suspected work-related illness, sickness absence as a percentage, total hours worked in the project. (NORSOK S-012, Subsection 8.4, 2002) The format of such HSE report is presented in the Appendix.

#### **4.2.3 Normative framework of 'sustainability disclosures'**

The next point is the identification of normative structures for 'sustainability disclosures' production that are adopted in practice. Hence, we will make a brief insight into the idea of these mechanisms.

##### **4.2.3.1 ISO**

The ISO is a non-governmental organization which comprises the national standards organizations, mainly private sector organizations, of 149 countries from both developing and developed states. At present, there are 15 ISO process standards that have been released in the area of environmental management (ISO, 2002). Adams and Narayanan (2007) state that the ISO standards are procedural in their approach to environmental management and do not make in-principle statements on sustainability and sustainability reporting, so that currently there are no standards in relation to sustainability reporting in the ISO series of standards. For instance, the ISO 14000 set cover the following aspects of environmental management:

- EMS: ISO 14001, 14004;

- Environmental management: ISO 14015, 14031, 14050;
- Environmental management – life cycle assessment: 14040 – 14043;
- Guidelines for environmental auditing: ISO 19011;
- Environmental labels and declarations: ISO 14020, 14021, 14024, 14025 (Source: ISO, 2002)

In addition, there is ISO/WD 14063, a working draft on environmental communication and deals with how organizations can communicate their performance in relation to environmental management. In the offshore supply companies this standard draft is not currently applied as more often companies use the designed internal communication systems. Adams and Narayanan (2007) refer to the ‘ISO in Brief’ document where the three pillars of SD are prominently mentioned. This document claims that the ISO procedural standards make up a complete offering for all three dimensions of SD – economic, environmental and social. This indicates that the issue of sustainability is clear in the ISO’s agenda, however, much progress needs to be made in this area.

#### **4.2.3.2 Occupational Health, Safety and Security (OHSAS 18000)**

OHSAS 18001 has been developed to be compatible with the ISO 9001 (Quality) and ISO 14001 (Environment) management systems standards, in order to facilitate the integration of quality, environmental and occupational health and safety management systems by organizations, should they wish to do so. The (OHSAS) specification gives requirements for an occupational health and safety (OH&S) management system, to enable an organization to control its OH&S risks and improve its performance. It does not state specific OH&S performance criteria, nor does it give detailed specifications for the design of a management system. The reporting part of this standard bases on its section named ‘Audit and Compliance Management Workflow’ though it concerns only internal corporate stakeholders. The following aspects are included: 1) Improvement of compliance management processes; 2) Provision of executive dashboard with visibility on enterprise-wide compliance; 3) Provision of consistent and comparable compliance information across business; 4) Configuration of audit/assessment checklists and protocols; 5) Administrative checklist question, scoring, and weighting functionality; 6) Scheduling audits/assessments for entire business, a single business unit or a single site, track, monitor and rectify all identified non-compliances; 7) Notification and reporting via email and dashboard all responsibilities in the audit and non-conformance rectification workflow; 8) Provision of data validation, verification and integrity. But, again, OHSAS standard as the ISO is procedural and it

does not currently provide clear guidance on what to report and how to report. It is considered only as a process management system to identify the problems of sustainability at an enterprise.

#### **4.2.3.3 SustainAbility (SA 8000)**

The procedural standard of SA considers as a recognized benchmark among the voluntary codes and standards initiatives that companies and factories measure their performance. SA 8000 is grounded on the principles of core conventions of the International Labor Organization, the UN labor conventions, and the Universal Declaration of Human Rights. It is applicable to all companies regardless of scale, industry and location. Its objective is to ensure ethical sourcing and production of goods and services (SAI, 1997). But there are no specific requirements for external reporting practice on the social indicators as in the case of ISO 14000 and OHSAS 18000.

#### **4.2.3.4 United Nations Global Compact**

The Global Compact is a part of the United Nations Environmental Program (UNEP) governed by the UN. Adams and Narayanan (2007) specify that this voluntary-based framework provides general guidance on sustainability issues through its ten principles model. The principles of the UN GC broadly address the issues of: human rights, labor standards, the environment and anti-corruption:

##### Human Rights

- **Principle 1:** Businesses should support and respect the protection of internationally proclaimed human rights; and
- **Principle 2:** make sure that they are not complicit in human rights abuses.

##### Labor

- **Principle 3:** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- **Principle 4:** the elimination of all forms of forced and compulsory labor;
- **Principle 5:** the effective abolition of child labor; and
- **Principle 6:** the elimination of discrimination in respect of employment and occupation.

##### Environment

- **Principle 7:** Businesses should support a precautionary approach to environmental challenges;
- **Principle 8:** undertake initiatives to promote greater environmental responsibility;

- **Principle 9:** encourage the development and diffusion of environmentally friendly technologies.

#### Anti-Corruption

- **Principle 10:** Businesses should work against all forms of corruption, including extortion and bribery (UN GC, 2000)

Organizations that commit to the Global Compact are expected to report on an annual basis. The UN GC is a normative structure as companies sign the list of principles simply because of the commitment has been accepted by society despite the UN has no power to enforce this action. In Norway the commitment to these guidelines can be considered as a norm which influences the organizational field of O&G offshore supply industry (Larrinaga-Gonzalez, 2007).

#### 4.2.3.5 Global Reporting Initiative

In 1997, UNEP and the Coalition for Environmentally Responsible Economies launched the Global Reporting Initiative process to develop guidelines for reporting on economic, environmental, and social performance and it became an independent body in 2002 (Adams and Venkat, 2008). In general the GRI framework has codified the norms and rules of SR (Unerman et al., 2007). Its goal was to elevate sustainability reporting to the same level as annual financial reporting. The GRI can be described as a “multi-stakeholder process and independent institution with the mission to develop and disseminate globally applicable sustainability reporting guidelines” (UNEP, 2005:16).

The first 2002 guidelines were developed after the GRI symposium in 2000 following the provision of extensive feedback by companies that had adopted the 2000 guidelines. Recently in October 2006, the third revised or G3 version of the guidelines was released; these guidelines are complemented by sector-specific supplements that provide sustainability indicators specific to the needs of sectors (UNEP, 2005:17). The main improvements were: improved indicators, a complete set of technical protocol, a reveal test, report registration, tiered reporting levels, harmonization with other prominent guidelines, a special section of financial sector, and a digital interface for communication of reports (GRI, 2006).

#### 4.2.3.6 ‘Achilles’ reporting system

Sustainable procurement and reporting is also implemented through the industrial ‘Achilles’ buyer-supplier database system where approximately 2500 suppliers and over 80 purchasing organizations are registered. The participation in the system is voluntary. The working mechanism of the buyer-supplier database system includes three following stages:

1. **Identification and qualification.** ‘Achilles’ is a standard pre-qualification service, gathering information about suppliers (such as financial performance, health, safety & environmental policy, corporate responsibility, products and services data), checking that it is accurate and current, and provides this online to buyer communities. Time, money and effort are therefore saved in the procurement process for all parties;
2. **Evaluation.** The provision of purchasers with screening tools, allowing them to access up-to-date supplier data. Suppliers have access to services to evaluate their performance and similarly purchasers have routes available to evaluate their suppliers. Additionally, the benchmarking facilities in the system provide benefit for all members; buyers can view supplier scores and compare performance through relevant reporting. Suppliers can assess their performance by comparing their performance data with competitors’ reports (on HSE or CR, for instance).
3. **Monitoring.** ‘Achilles’ system provides monitoring tools to help both buyers and suppliers. Buyers can rate their suppliers and vice versa, resulting in the two parties working together to identify opportunities for improvement.

## Summary

We have overviewed a set of mechanisms reflected in standards and guidelines which regulate the process of ‘sustainability disclosures’ production within the O&G offshore supply companies. At first, we state that the range of data disclosing mechanisms is quite wide. We have divided them into two big groups: regulative (relates to mandatory reporting issues) and normative (relates to voluntary reporting).

The international regulative set comprises MARPOL Convention 73/78 developed by the IMO, the EU directives on environmental reporting. The national regulations relate to the Norwegian accounting act (mandatory reporting on the external environment, working environment and gender equity in annual report), the industrial NORSOK standard for reporting on HSE indicators within contractual relationships. The international normative framework encompasses the compliance to GRI sustainability reporting standard, 10 principles of UN GC certification systems like ISO 14001 “Environmental Management”, OHSAS 18001 “Occupational Health and Safety”, SA 8000 “Labor conditions and human rights”; the reporting framework through ‘Achilles’ qualification system in the ‘buyer-supplier’ relations.

The voluntary set of standards dominates over the regulative framework for the production of sustainability disclosures. Both frameworks set environmental and internal social indicators in the disclosures priority, while external social and socioeconomic (CSR) pillars are put on the second plan or not mentioned at all in some cases, except GRI standard, UN GC guidelines, SA 8000 standard.

### 4.3 Action level of ‘sustainability disclosures’

#### 4.3.1 The extent of sustainability disclosures

The following sections of the empirical part will be dedicated to the survey of disclosing extent to which the NSA enterprises report on sustainability issues and, then two case studies will be presented. The extent of sustainability reporting in the NSA companies has been conducted through the evaluation of current sustainability disclosing practices in different forms. During the research, generally we faced the disclosures in forms of joint or separate reports either web-based sustainability data. Certainly, not all the reports we have found are named only as Sustainable Development reports, but also as CSR; health, safety and environment; corporate responsibility; environmental reporting etc. Also we had a look at the content of board of directors’ reports in the NSA companies if they were available.

#### 4.3.2 General overview of the disclosure extent within the NSA

Before the estimation of the particular criterions we have conducted a general overview of the NSA companies identifying the distribution of reporting types: joint reports, separate reports, and directly up-loaded web data addressed sustainability issues in the form of corporate policies, codes of conduct, sustainability statistics, figures, tables etc. The percentage distribution of reporting types we have gained is presented below:

*Table 4. The distribution of sustainability disclosure types via the NSA participants*

Type of disclosure	% shares of sustainability disclosure types	Amount
Annual reports + direct web data	85,85%	91
joint reports	7,55%	8
annual + sustainability reports	6,60%	7
<b>Total</b>	<b>100</b>	<b>106</b>



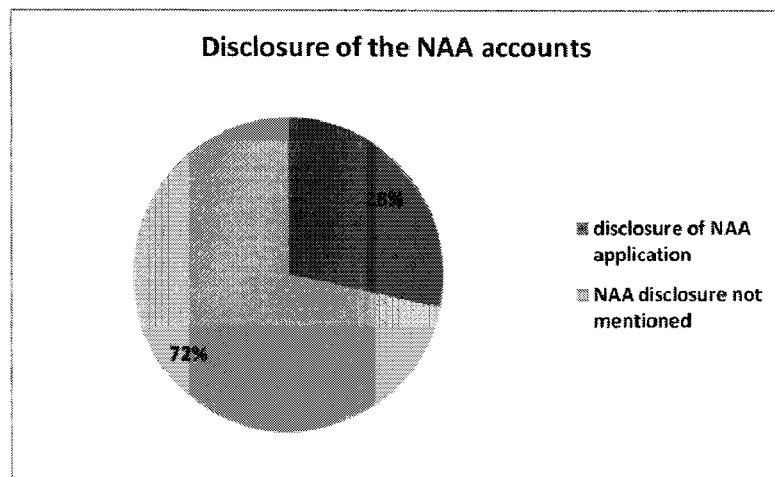
As one may see, from 106 enterprises only 6,6% (7 units) of total amount has been producing annual reports plus additional separate sustainability reports, 7,55% (8 units) – has been practicing the joint reporting (sustainability data integrated into the annual financial report), and the majority of NSA members addresses the sustainability issues directly through web-based sustainability data without integration into annual financial reports. The content varies from company to company, regardless to companies' size, activity dimension, annual turnover etc.

#### **4.3.3 Distribution of standards for 'sustainability disclosures'**

This section is important for our research as it answers the question of how the scope 'sustainability disclosures' norm system with its standards and guidelines is distributed within the NSA companies and what ones dominate in this scope. The detailed results which we have got in the survey are presented in the Appendix.

We have started with the regulatory framework for 'sustainability disclosures' in the international context. It has appeared logical that all the NSA participants (as all of them operate vessels) follow the reporting requirements of the IMO (the guidelines of Convention 73/78) which concern the compulsory reporting on environmental issues like emissions, liquid spills etc. Almost the same set of reporting requirements are stated in the local Norwegian context by the national government. The same thing one may state about the EU/EEC directives which are executed by all the NSA companies whose reporting shall include the accounts both financial and non-financial KPIs relevant to particular businesses, including information relating to environmental and human resource matters.

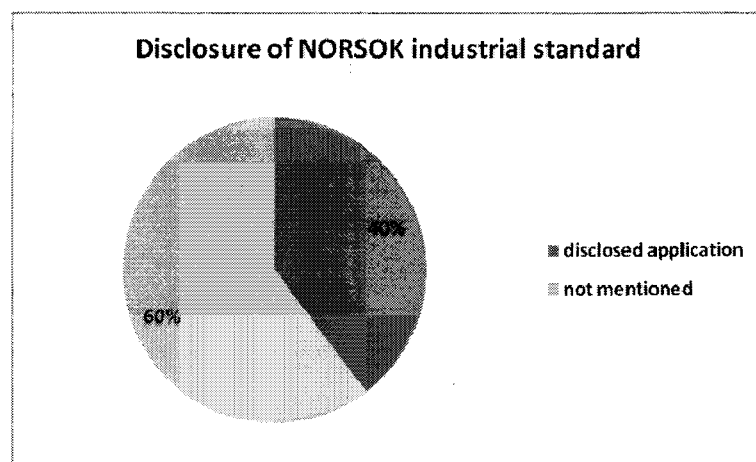
The next compulsory reporting standard complies with the Norwegian Accounting Act (NAA) according to which all enterprises officially registered in Norway are required to produce reports on three non-financial issues in the board of directors' annual report. Having analyzed the annual reporting of all the NSA participants, we have gained the following results:



*Figure 8. Disclosure of the NAA accounts*

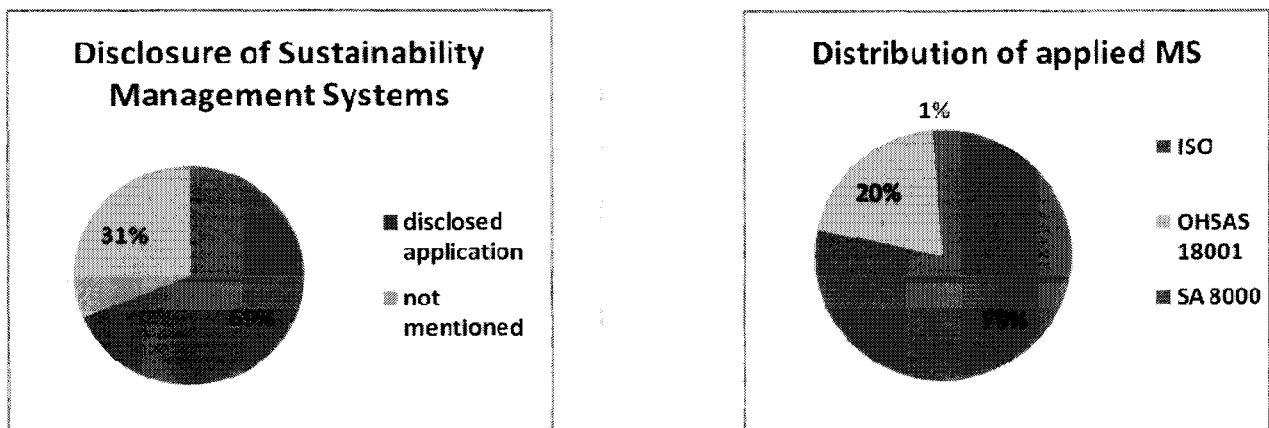
As we see the the distribution of companies has refelected the following results: only 28 per cent of the NSA companies report on the accounts of external environment working environment and gender/cultural equity/diversity using joint or separate pulished reports; other amount of companies (72%) either does not mention about the NAA accounts in the board of directors' report. Nevertheless, it does not mean that these disclosures are not produced. The board of directors' reports, which include three accounts, are trasferred by these companies directly to Bronnøysund Statistic Center. And all the external users have an access to these disclosures.

From the national legislative frameworks we move closer to business where we specify the industrial SR standard for the issues of health, safety, security and environment – NORSOK (the reporting guidelines section S-012). This data is disclosed by all the companies in the NSA which deal with the offshore construction. So, the distribution result is that 40% out of 106 companies disclose HSE data using this standard; other companies just do not mention.



*Figure 9. Application of NORSOK industrial standard*

The next step in the section is the overview of distribution with regard to the normative standards and guidelines of the norm system. The crucial management systems which build a base for sustainability reporting are the frameworks of ISO 14001 (environmental), OHSAS 18001 (health and safety), SA 8000 (socioeconomic issues and human rights). However, we have mentioned the fact concerning these frameworks that they are procedural and do not currently provide clear guidance on what to report and how to report. Again it is up to a company to decide on the form and the content of procedural sustainability disclosures. The voluntary basis of these frameworks explains their wide application within the NSA companies. 69 per cent of them mention about the disclosure regarding the procedural internal standards. In this 69%, the amount of 79% apply ISO 14001 in complex with OHSAS or without it, just 20% has the certificates of OHSAS as it is considered quite expensive. The gained results are presented in two figures:



Figures 10, 11. Disclosures of Sustainability MS and Distribution of applied MS.

The distribution of the disclosed UN GC application framework with its 10 principles for sustainability reporting is reflected in the following figure:

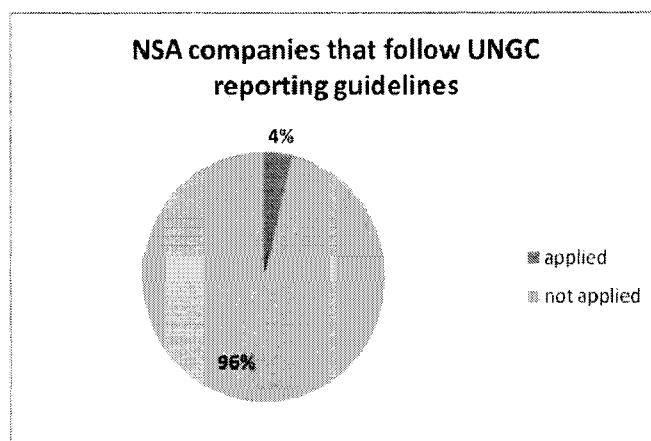
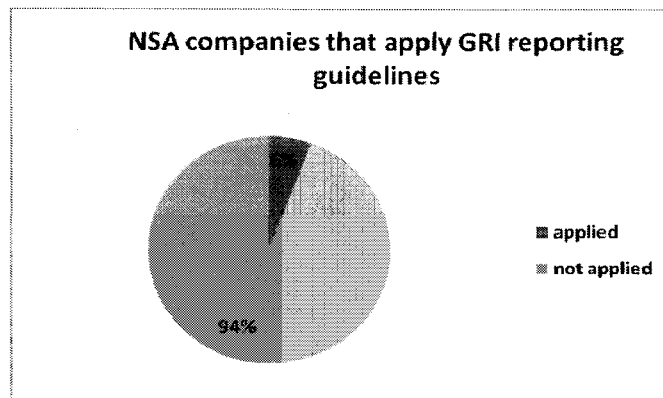


Figure 12. NSA companies that follow UN GC reporting guidelines  
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As we see the results show that only 4% of the NSA enterprises follow these principles. And, finally, the GRI sustainability reporting standard is applied only by 6% out of 106 companies in the NSA. The results are shown below:



*Figure 13. NSA companies that apply GRI reporting guidelines*

Having analyzed the distribution of standards and guidelines of sustainability disclosures the following conclusions are made:

- The framework of sustainability disclosures within the NSA participants is represented by a wide scope of standards and guidelines;
- All companies in the Association, including O&G offshore supply cluster, follow the regulatory framework according to international and national legislation for environmental reporting;
- Only 28% of the NSA companies disclose data concerning the on the NAA accounts in their annual report. Other companies disclose data on these accounts by transferring it directly to the Bronnøysund Statistic Center as it is compulsory for all the Norwegian registered companies;
- The international voluntary standards like GRI and UN GC are applied by a minority of companies: 6 and 4 per cent respectively;
- The dominating frameworks are the industrial NORSOK standard as it is applied by all the companies engaged in the offshore construction business, however, data reported is available only to the triangle 'client – contractor – governmental authorities'. Also the ISO and OHSAS management systems are widely used though it a company decides itself of what and how to report.

#### 4.3.4 Disclosures of general Sustainable Development (SD)

The first criterion ‘General SD’ does the evaluation concerning the general impression an enterprise provides with. The criterion evaluates the comprehension and management of sustainable development in sustainability disclosures provided in different forms (web-based data, joint or separate sustainability reports). The sustainability disclosures are evaluated in terms of how challenges and goals, figures, measures, and performance are presented, and whether the most important and relevant SD aspects of the company’s activities are discussed. Additionally, we had a look at the best-practice examples of how the enterprise’s SD activity is undertaken, as well as orderly presented and systematic information, is awarded.

##### 4.3.4.1 General SD – Environment

In this section the measurement of how and to what extent an organization makes a reflection of its impacts on the environment. In order to get an estimation of ‘satisfactory’ or ‘very satisfactory’ relevant data on corporate environmental objectives, measures and challenges should be provided and the actual ecological impact should be disclosed. The account of environmental impact should give the specification of waste disposal, GHG emission level, energy and water consumption, chemicals usage, biological diversity impact, transport and so on. Below one may find the figure of the extent to which the NSA participants disclose generally on the external environment using different dimensions of sustainability disclosures:

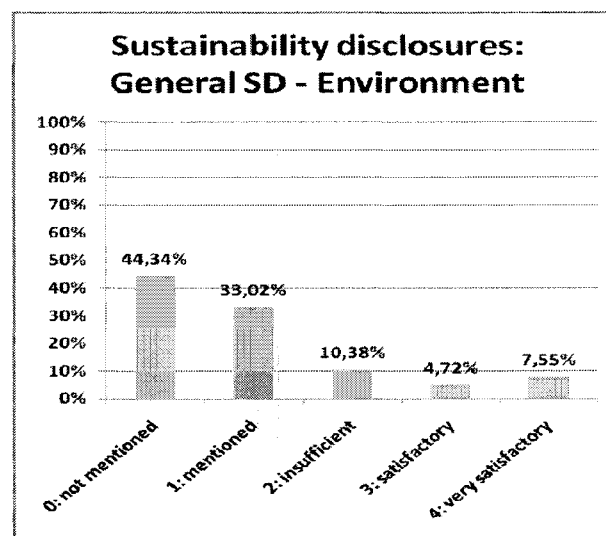


Figure 14. Sustainability disclosures: General SR – Environment (N=106)

Very few companies, only 7,55 per cent (8 units), deserve the highest score ‘very satisfactory’ on their environmental impacts, whereas 4,72 per cent (5 units) produce satisfactory disclosures. In

total, approximately 12 per cent of the NSA enterprises show the considerable quality of environmental disclosures. The best practices on this criterion are represented by Norske Shell AS and V.Ships Norway AS.

Norske Shell AS publishes the annual separate Shell Sustainability Report which has been scored as 'very satisfactory'. The issues of the external environment are central in the report with the main corporate slogan 'Responsible energy'. Shell's Sustainability Report contains a considerable part of environmental issues addressing the environmental business principles and policies including the reporting of GHG emissions, the development of carbon capture and storage technologies, the statistics of oil and other harsh liquids spills, the usage of cleaner fuel for power, the commitment to sustainable transport and biofuels, the intensity numbers of energy consumption for the downstream activities. As well the comprehensive data on ISO 14000 certifications, water consumption, and biodiversity action plan is provided.

Another example is V.Ships Norway AS which produces the annual separate Environmental Report with an extension to socio-economic responsibility. The report contains very satisfactory general understanding of the environmental issues, provides information on the corporate compliance culture and environmental policies, explains the "Green Ships" program and presents four case studies on Oily Water Discharges, Managing Emissions, Independent Review of MARPOL Compliance and Cold Ironing.

However, the essential amount in the NSA does not disclose enough on the external environmental impact. Approximately 10 per cent of the enterprises produce insufficient disclosures of the stand-alone aspects of activities, and lack data on goals, measures, figures relevant to the environmental challenges.

33 per cent of the NSA participants gained an estimation of 1, as the impact on the external environment was reflected in several sentences, with minimal relevance to their own activities.

#### **4.3.4.2 General SD – Social Responsibility**

The next sustainability dimension includes the external and internal relationships within a NSA company which comprises the relations both with affected external stakeholders and employees affected by the company's everyday operations. The criterion is analyzed from the position of social responsibility, where its internal section encompasses Health, Safety, Security and Environmental issues and personnel training. The external section of social relations refers to the rest of community and external stakeholders. The following problems here are: what is the

corporate reflection to the issues of its business impact on society and how does it understand its role as a social actor?; To what extent customers, suppliers, local communities, indigenous people, NGOs, authorities and other stakeholders of the NSA are being engaged in CSR strategy?; How are the relations with these players being addressed and discussed in the disclosures? To visualize disclosures of social responsibility in the NSA companies the following figure is presented:

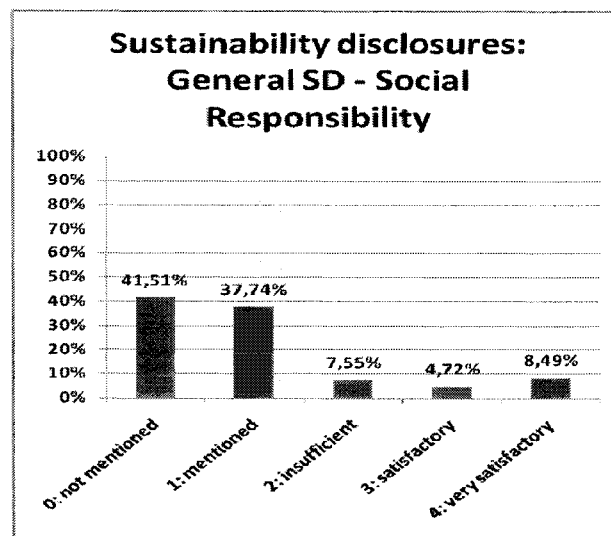


Figure 15. Sustainability disclosures: General SR – Social Responsibility (N=106)

At first, one may notice that the result for the general understanding of social responsibility is approximately the same as the understanding of external environmental issues. However, the result, generally, are not satisfactory as only 13 per cent of the NSA companies disclose enough data on internal and external CSR issues. It means that the majority of the sample (at about 85 per cent) just mentions or does not provide any relevant information.

The best practice example of NSA participant, according to our scores for CSR general understanding, is the subsea offshore supplier Technip Norge AS, which annually publishes Sustainable Development report, addressing both the external and internal social issues at a very satisfactory level. A considerable separate report's section provides the internal data on Health, Safety and Security (HS&S) with the detailed reporting about accident rates; employee training in technical, non-technical, HS&S, human rights and business ethics dimensions; gender breakdown of executive and manufacturing personnel; changes and breakdowns of workforce; organization of working hours; rates of workforce absenteeism; compensation and profit sharing. Within the section of external social relations the Technip's report disclose the data on labor relations in the countries the company operates; the different solidarity initiatives and civic

responsibility programs. In addition, the report provides detailed information on the company's commitment to the UN Global Compact and its ten principles in the areas of human rights, labor standards, the environment, and anti-corruption, which are applied in the corporate day-to-day routines.

#### 4.3.4.3 General SD – Economy

Here we should underline that the economic dimension of 'sustainability' does not mean the conventional financial analysis and disclosures which usually can be found in the annual accounts in the sector for investor relations. The economic dimension of 'sustainability' has been scored with regard to corporate business ethics and socio-economic influence on society at the global and local levels, which refers to the issues of innovation, competence building, local value creation, and entrepreneurship. The critical point in the economic dimension is also the corporate governance 'concept'. It is assumed in the article 'What is Corporate Governance?' (Oslo Stock Exchange, 2005) this concept has no exact translation to Norwegian context, still the following terms such as 'selskapsledelse' and 'virksomhetsstyring' are widely used in Norwegian companies, and however, they cannot cover the English term properly. The primary objective of corporate governance comprises the achievement of transparency and confidence as well as the aspects related to the salary level of top-managers, board of directors and linear management relations, corruption, the board's independence and probable competence issues. So, how the NSA companies do reflect the issue of sustainable economy in their disclosures?

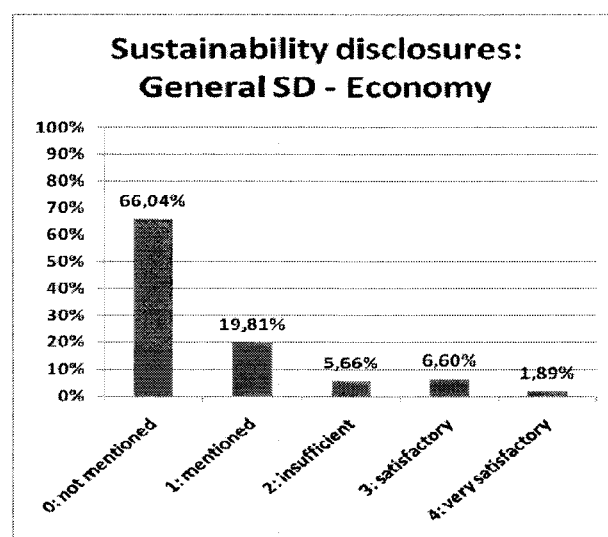


Figure 16. Sustainability disclosures: General SD – Economy (N=106)

Looking at this figure one may carry out that the economic dimension of SD is represented here by the poorest scores of insufficient, satisfactory and very satisfactory categories under the



criterion General SD. Only 1,89 per cent (2 companies) of the NSA enterprises disclose very satisfactory on the economic dimension. Another 6,6 per cent (7 companies) produce satisfactory disclosures. Finally, 66 per cent (70 companies) of the sample fails to mention any relevant data on the sustainable economy.

Again the best practice company in the sample is Technip as it provides data on sustainable economy both in the sustainability report and directly on its web-page. The issues addressed concern the economic contribution into the development of all employees, technological innovations and cutting-edge technologies, economic honesty and transparency, and the achievement of the highest standards in corporate governance. It is also mentioned that Technip's activities are governed by the corporate values and the six charters that explain them in more detail, particularly the Ethics charter, which comprises the guidelines of good conduct. Though, Technip doesn't disclose any data on anti-corruption, directors' fees.

#### **4.3.5 Disclosures of Management systems**

The corporate strategy of sustainable development needs to be presented in a trustworthy and reliable way to increase the stakeholders' value. By this reason an enterprise must disclose appropriate data on specific management systems incorporated into the routines of sustainability disclosing. This second important criterion encompasses the responsibility delegation, different sanctions for corporate internal offences, environmental and social certifications, and the addressing of corporate governance. The section of management systems' disclosures overviews the problems of procedures implemented in the NSA companies to monitor, uncover or prevent mistakes, deficiencies against established rules, standards, policies etc.

##### **4.3.5.1 Management systems - Environment**

With regard to the criterion of environmental management systems we have analyzed how an enterprise in sustainability disclosures provides a description of its environmental work. We have examined the environmental management systems incorporated into the NSA members' activities. Here we specify the international standards like ISO, EMAS or Norwegian one "Miljøfyrtårn". The following figure reflects the gained results:

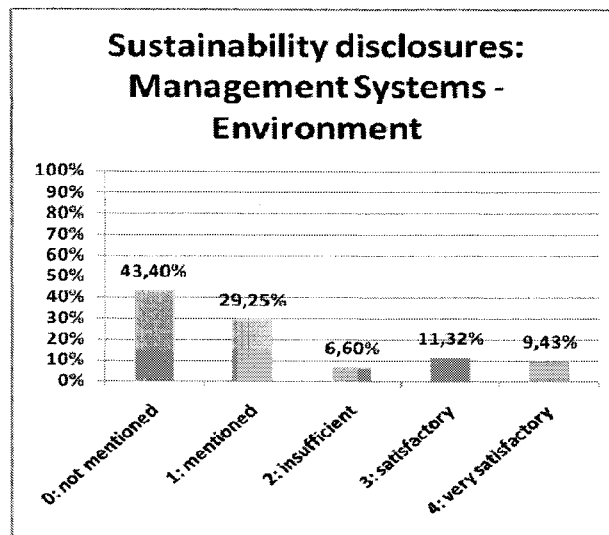


Figure 17. Sustainability disclosures: Management Systems – Environment (N=106)

As we see from the figure 9,43 per cent and 11,32 per cent of the NSA companies disclose very satisfactory and satisfactory respectively on the environmental management systems. An enterprise could gain a satisfactory score (3 points) in case there is a short paragraph provided on the responsibility delegation, the organization of impact monitoring, data registration and analysis, as well as specifying internal management systems, like ISO 14000, EMAS, the Norwegian “Miljøfyrtårn” certification, and/or control systems and established reporting practices. The best practice on this criterion has been found in the sustainability disclosures of Wilh. Wilhelmsen ASA.

Wilh. Wilhelmsen ASA incorporates the annual program of eco-management in its environmental report. It is reflected in form of a comprehensive chart where one may find out a list of aspects (NO<sub>x</sub>, SO<sub>x</sub>, other chemicals emission or spills); the affected area (air, water, other area); general objective (e.g. reduction of NO<sub>x</sub>); definite target (reduction of NO<sub>x</sub> by 25% per unit during one year); a measure to be taken (e.g. the installation of new slide valve on vessels); and status (in progress).

WW’s top-management delegates the responsibilities for the environmental impact registration and analysis to WW’s business unit Barber Ship Management (BSM) which ensures that the ships under its management operate safely, environmentally and efficiently. A special computer system has been developed to register and analyze operational data as well as undesirable ecological incidents and non-conformances. This information is compared quarterly with pre-defined quality parameters to ensure that the vessels do not have unacceptably high emissions/discharges. The use of chemicals takes an essential part of WW’s day-to-day activity,

so the DNV certification of ISO 14001 environmental management system has been implemented which covers product development, production, warehousing, distribution and marketing of maritime chemicals.

The rest of NSA amount got the following results. 6,6 per cent of the enterprises produce insufficient data on the systems for environmental management (EMS). At the same time approximately 29 per cent in the NSA just mention that some type of EMS is incorporated in the corporate activity, though with DNV verification. 43,4 per cent do not mention at all about EMS or any related topic directly on the web-page.

#### 4.3.5.2 Management systems – Social responsibility

For the criterion Management systems – Social responsibility, we have made an assessment of the following data related to organization and delegation of responsibility, social management systems and control process. In general, the extent evaluation of HSE practice relevant for employees has been conducted. As well we had a brief look at management systems for corporate social responsibility related to external stakeholders' communication process (e.g. relationships with local communities, indigenous people, national governments, other authorities, NGOs etc.). The following figure visualizes the NSA assessment results:

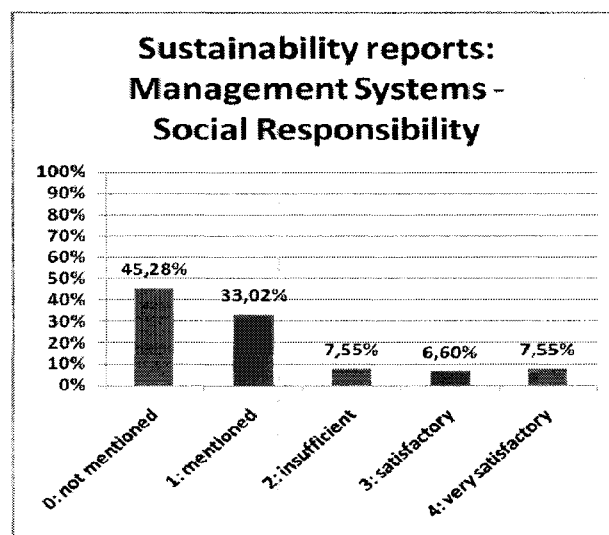


Figure 18. Sustainability disclosures: Management Systems – Social Responsibility (N=106)

In sum 14,15 per cent of the NSA enterprises produce satisfactory and very satisfactory disclosures on management systems for social issues. Another 7,55 per cent of the 106 enterprises do it insufficiently. 33,02 per cent just make a notion in general terms of HSE

managerial routines related to the problems of employees and external stakeholders. Whereas 45,28 per cent mention nothing concerning this criterion.

Having assessed the list of NSA companies, we have found out the best according to the social management systems. But, there was the tendency that the major of the explored amount are practicing internal HSE on a regular basis, while without a detailed description of applied management system. This fact explains low scores, but it does not mean that HSE is avoided. The management system for external stakeholders also lacks the reporting of related data. Still, there are some good examples like Wallenius Wilhelmsen Lines and V.Ships Norway AS which reports on the implementation of OHSAS 18001 standard and quality management systems for maintaining and improving employees' health, safety, and security. The companies very satisfactory disclose relevant data on working environment, programs on HSE training, employee development plans targeted to increase their professional competence. V.Ships makes a disclosure of data on applied managerial systems which assess impact on the countries where the it operates, involving political systems, human rights, gender and nationality equity.

#### **4.3.5.3 Management systems – Economy**

The 'economy' pillar of sustainability in the framework of management system criterion is connected to the issue of corporate governance effectiveness. On this criterion, scores were given with regard to way of managing and securing ethical economic management and how a company does cope with the problems related to managerial corruption and bribery. Enterprises providing users with a basic overview of corporate governance are scored by insufficient assessment. Companies which link their corporate governance to sustainable development and/or disclose data on business ethics MS are estimated by 3 (satisfactory). Finally, a score of 4 was given if data on managerial systems concerned to the corporate activity and the codes on economic impact. The results for the NSA companies are illustrated in the following figure:

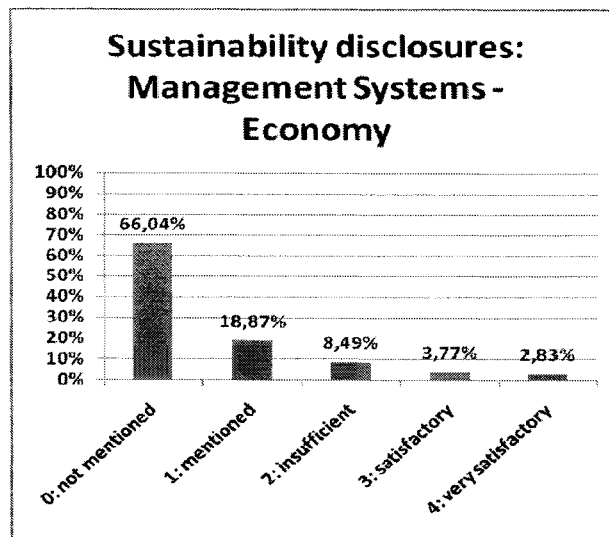


Figure 19. Sustainability disclosures: Management Systems – Economy (N=106)

The assessment shows unsatisfactory results on this dimension. The majority in the NSA does not provide any relevant information on corporate governance of economic impact, the share of total amount is reflected by 66,04 per cent; and approximately 19 per cent at least mention about the issue of corporate governance. 3,77 per cent in the NSA disclose rather satisfactory on corporate governance. They view the issue considerably broader and connect it to sustainable development concept. These companies disclose data on systems of secure the avoidance of corruption and bribery etc.

Furthermore, the best practice example has been found out to show the technique according to the current criterion. Prosafe Offshore AS presents a well-designed section of corporate governance linked to sustainable development, based on the Norwegian Code of Practice for Corporate Governance. It addresses the core values, Code of Conduct within business ethics for employees. Prosafe Offshore’s joint sustainability report includes data on whom to contact in cases of ‘whistle blowing’. As for the management system for corporate governance, the board has traditionally undertaken an annual self-evaluation of its working methods, composition and the way directors function, both individually and collectively, in relation to the ‘sustainable economy’ goals set for their work. In this context, the board also assesses itself in relation to corporate governance. The assessment is made available to the election committee as a tool for continuous improvement.

#### 4.3.6 Codes of conduct disclosures

Code of conduct is a separately published document (usually on a web-page) which contains fixed guidelines. A specific code of conduct is considered as a managerial instrument to ensure

the commitment to corporate responsibility and sustainable development. The existence of this document in a company proves states credibility and transparency in the external perspective. Producing a disclosure on this issue may make a contribution into the increase of business guidelines familiarity in the internal perspective. The objective of sustainability disclosures makes it easier to enforce the awareness of a code both externally and internally. As for our exploration, we have gained quite poor disclosure results concerning economic, social, and environmental codes of conduct within the analyzed reports or web-based data.

#### 4.3.6.1 Codes of Conduct - Environment

The environmental section for the current criterion gives the answer to the question of ‘how many of the NSA enterprises disclose data on codes of conduct with regard to the environmental issues in the sustainability disclosure? The following figure reflects that the results gained do not make a good impression.

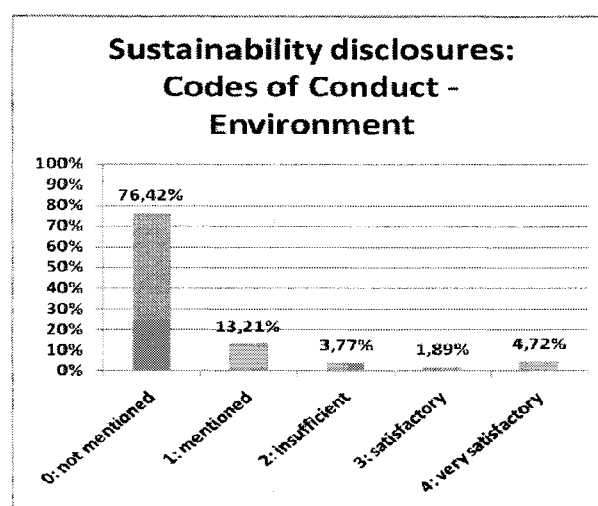


Figure 20. Sustainability disclosures: Codes of Conduct – Environment (N=106)

The figure reflects that 76,42 per cent out of the NSA members do not provide any lines on environmental codes of conduct neither in their report nor directly in the web. There are just several examples which make a considerable contribution into their sustainable development by publishing relevant codes. In total, we have found out approximately 6 per cent which practice it (scores 3 and 4). Among them are Norske Shell AS, Technip Norge AS, Wallenius Wilhelmsen Lines, Wilh. Wilhelmsen, which gained the best scores for their environmental codes of conduct.

The best practice in terms of environmental responsibility is shown by Norske Shell AS, which reports on the environmental bottom-line in its code of conduct. The guidelines of “do’s” and “don’ts” for employees, involved in the O&G operations are presented in the report. The purpose

of the environmental code sounds as “You may have seen colleagues do something that you considered potentially dangerous – to themselves, to others around them, or to the environment but not known what to do. The Code explains how you should react and provides a way to speak up about issues”. Another good code of environmental conduct can be found on the web-page of Wilh. Wilhelmsen called “An environmental forerunner”. It reflects the commitment to the environmental guidelines of UN Global Compact as well as presents the internal policy for corporate environmental friendly behavior which is communicated to the persons working for or on the behalf the organization.

#### 4.3.6.2 Codes of Conduct – Social Responsibility

The evaluation of CSR or Health & Safety codes has presented that quite few enterprises in the NSA produce disclosures of external or internal CSR. The satisfactory result for this amount is a bit more than 7 per cent. Only 15 per cent mention that they have HSE practice, and there is no detailed explanation of what and whom HSE data is disclosed to. While 75,5 per cent do not provide any data on either internal HSE or external CSR disclosures. The following figure illustrates the results of assessment:

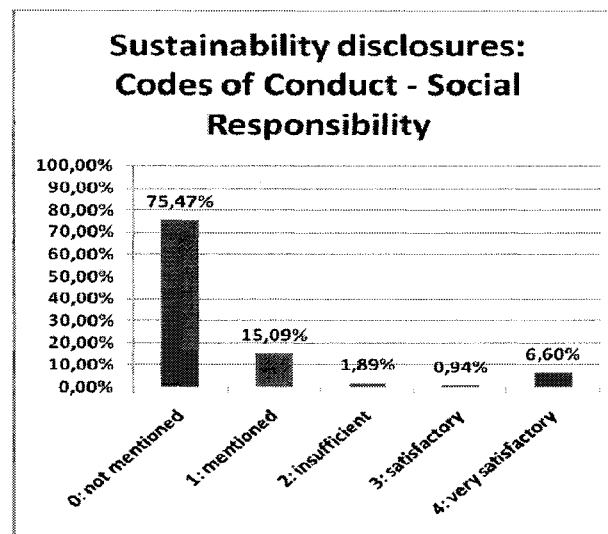


Figure 21. Sustainability disclosures: Codes of Conduct – Social Responsibility (N=106)

Despite the lack of detailed HSE or CSR disclosures in the Association some enterprises like Technip, Wallenius Wilhelmsen, Wilh. Wilhelmsen, Norske Shell embed in their business 10 principles of UN Global Compact of responsible behavior, labor conditions etc. All these companies and, additionally, Odfjell ASA, disclose data on internal codes for QHSE and commit to the International Security Code. Within our assessment the most successful report on QHSE issues is made by Odfjell ASA, which publishes four relevant separate codes for quality and risk

management of working process; human resource code in order to ensure a safe working environment and encourage open communication and teamwork, and offer interesting and challenging jobs with opportunities for development of employees; HSE code which refers to zero injuries, low risk achievement, avoidance of health-harm pollution and damage to vessels; and, finally, security policy based on the ISM code to reduce piracy and terrorism. As for the external CSR issues Odfjell ASA produces a report on how it conducts its corporate programs related to the international sponsorship which stands on the guidelines of avoidance of political pressure via financial support of local communities, responsible investment with no harm to health, safety, and environment which always must be correct and acceptable.

#### 4.3.6.3 Codes of Conduct – Economy

As one may conclude from the assessment below the extent for codes related to the economy issue of ‘sustainable development’ is much worse than the results for environmental and social codes. Only one company showed very satisfactory results in this disclosure dimension. 6,6 per cent make satisfactory disclosures. It is explained by the absence of financial scandals within the Norwegian O&G offshore supply industry. That is why business ethical codes on corruption and bribery problems are not disclosed to large extent. Any NSA company got a good score on the current criterion in case it presented codes on business ethics and its economic impact on society. The figure below outlines the result of evaluation:

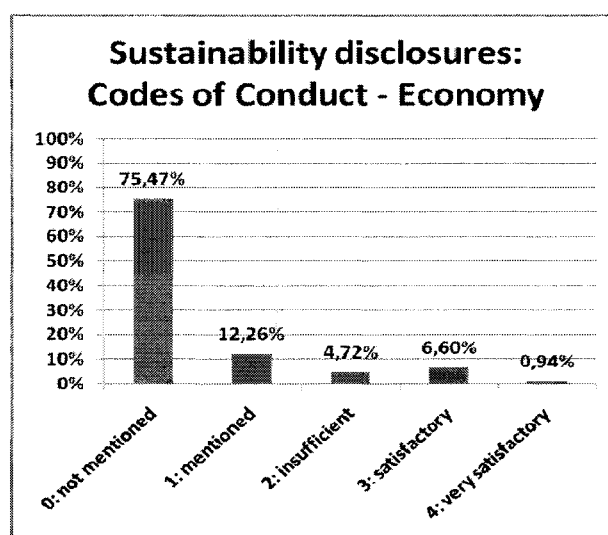


Figure 22. Sustainability disclosures: Codes of Conduct – Economy (N=106)

The best practice example here is Norske Shell AS. It discloses a considerable contribution of economic ethical data related to anti-corruption and bribery (employee guidance of how to behave in the situation when you face any corruption problem), the guidance to control conflicts



of interests, the recommendations concerning gifts and hospitalities, the answers to insiders' dealing, and, finally, the code of internal security and confidentiality.

#### 4.3.7 Disclosures of Supply Chain Management

The disclosures' evaluation of SCM criterion clarifies whether sustainability demands and expectations put on the NSA enterprises' suppliers, for example, in the form of recommendations, codes or certifications applied within the Association and whether they are controlled. The results of our assessment are quite weak. The majority of the NSA companies provides lack of data on the sustainability demands to suppliers in their sustainability disclosures.

##### 4.3.7.1 Supply Chain Management – Environment

As we see from the figure environmental demands to the SCM are quite weak. There is only one company in the NSA – Wallenius Wilhelmsen Lines – that has been scored 'very satisfactory' on this criterion. Though, Technip Norge, Prosafe Offshore and Norske Shell have come out with a satisfactory level.

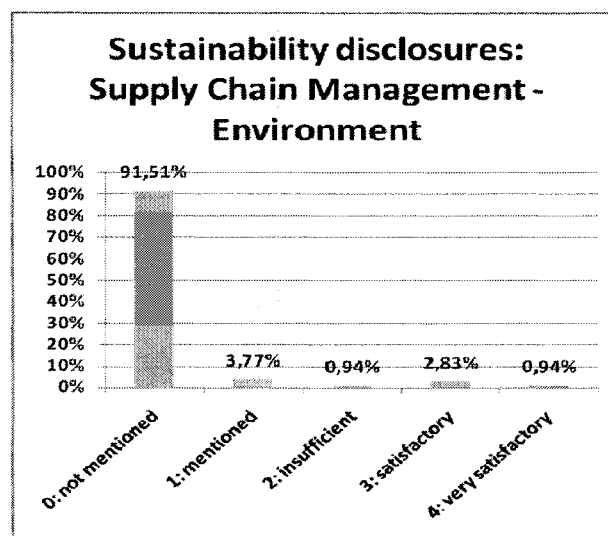


Figure 23. Sustainability disclosures: Supply Chain Management – Environment (N=106)

Wallenius Wilhelmsen Lines has revealed the leadership in disclosure of environmental demands and expectations to make the supply chain of this company more sustainable. The disclosure process is incorporated into the internal management system which comprises three parts: process management (planning, execution, and monitoring of operational activities and events, including network optimization, from factory to dealer); visibility and reporting (management of the order information to report unit status and location, measure process and supplier economic

and environmental efficiency, and eco-control activity and event exceptions); supplier management (planning, coordination, and monitoring of suppliers and vendors responsible for processes from factory to dealer, also with regard to environmental indicators).

#### 4.3.7.2 Supply Chain Management – Social Responsibility

With regard to disclosures of social expectation and demands within SCM, the figures are weak. The results are presented in the following illustration:

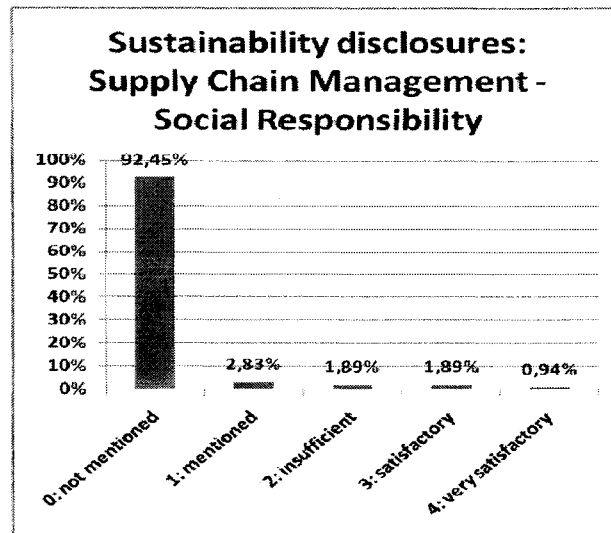


Figure 24. Sustainability disclosures: Supply Chain Management – Social Responsibility  
(N=106)

Only one company, Eidsiva Rederi AS, has been scored ‘very satisfactory’ in the dimension of social demands for its supply chain. This ship-owner expects that its supplier will follow the 10 principles of UN Global Compact and it has signed up the agreement based on the standard Social Accountability (SA8000) which includes the international norms of human rights related salary level, working hours, conditions of working environment, and hygienic aspects of the production. Also the company claims to commit to the achievement of balance between profit and social responsibility.

#### 4.3.7.3 Supply Chain Management – Economy

The last measurement refers to the criterion of how the NSA enterprises disclose data on expectations to their suppliers according to business ethics, issues of bribery and corruption; and socio-economic impact like local value creation, competence building, innovation and entrepreneurship.

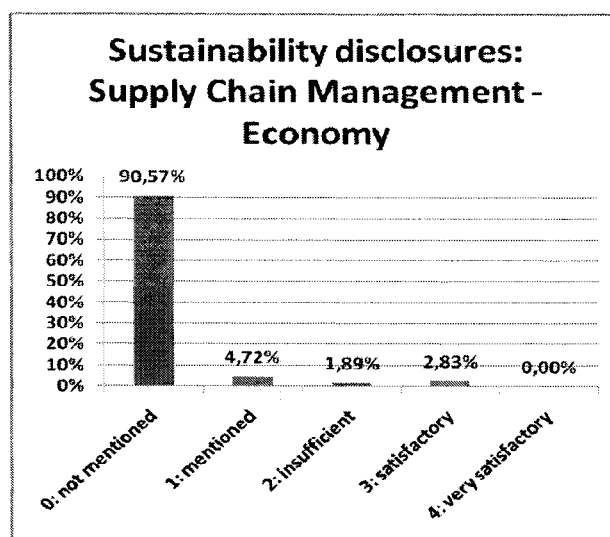


Figure 25. Sustainability disclosures: Supply Chain Management – Economy (N=106)

The presented illustration reflects the weakest results in comparison to other criteria in the assessment of ‘sustainability disclosures’. None of the NSA enterprises produce very satisfactory disclosures. Very weak score is given for insufficient and satisfactory levels 1,89 and 2,83 per cent respectively. 4,72 per cent just give a notion about business ethical expectations on suppliers in brief, only one or two sentences, while the majority – 90,57 per cent – do not take this issue into consideration in their sustainability disclosures.

### Summary

The conduction and the consequent analysis of survey helped us to find the extent of ‘sustainability disclosures’. We have revealed what particular standards are applied by the NSA participants, including the O&G offshore supply cluster; how these standards are distributed via the scope of companies, what standards are dominating and what are applied only by few companies. The dominating standard for disclosures for the NSA companies is the industrial standard NORSOK used by all companies engaged in the business of offshore constructions. Also the majority of the NSA companies use the procedural standards of ISO and OHSAS, which register and measure data on sustainability at the chosen technological stages of operations. But they do not provide framework of what and how to report data. At the same time the world accepted GRI reporting standard is applied only by a very small amount of companies in the NSA. In the cluster of O&G offshore supply it is applied only by one company: Technip Norge. As for the content estimation of sustainability reporting we have found out that it is not satisfactory. A little per cent of companies provide satisfactory and very satisfactory data on

general sustainable development, management systems, codes of conduct, supply chain management.

#### **4.4 Action level of sustainability disclosures: case studies**

In the section of the norm level we have overviewed the regulatory (mandatory) and normative (voluntary) bases for sustainability disclosures within all the participants of the Norwegian Shipowners' Association to understand the problem clearer. The following case study section is dedicated to the insight into the particular NSA's offshore supply companies and how 'sustainability disclosures' are currently operationalized and produced, what data content related to sustainable development is included into their sustainability disclosures. So, we are to provide a reader with our findings on the production of sustainability disclosures within the O&G offshore supply companies: Acergy AS and Technip Norge AS.

##### **4.4.1 Case study of Acergy AS**

###### **4.4.1.1 Company's profile**

Acergy AS (hereafter Acergy) is one of the largest seabed-to-surface engineering and construction contractors in the world in terms of revenues. The company designs, procures, builds, installs and services a range of surface and subsurface infrastructures for the global offshore oil and gas industry. The Group specializes in creating and applying solutions in response to the technical complexities faced by offshore oil and gas companies as they explore and develop production fields in increasingly deeper water and more demanding offshore environments.

Operations are managed through five geographical segments. They are: Acergy Africa and Mediterranean; Acergy Northern Europe and Canada; Acergy North America and Mexico; Acergy South America; Acergy Asia and Middle East. The chief operating decision maker is the Chief Executive Officer of Acergy S.A. He is assisted by the Chief Operating Officer of Acergy S.A. and for each segment Chief Executive Officer is supported by a Vice President who is responsible for managing all aspects of the projects within the relevant segment, from initial tender to completion. Each segment is accountable for income and losses for such projects. (Acergy's annual report, 2009)

According to the issue of external reporting, our first impressions on this topic were the following. The annual financial reports can be found at the corporate official web-page; however, Acergy does not produce joint or separate sustainability reports.

#### **4.4.1.2 State of sustainability disclosures**

Acergy had become the first offshore supply company which we started analyzing in the terms of sustainable development and ‘sustainability disclosures’ as Siri Skaar, our scientific mentor and one of the key respondents, was the Project manager in this company. Before the first state-up interview with her last year in the February we, at first, conducted a brief analysis of how sustainable development is operationalized and what is the state of ‘sustainability disclosures’ production. Having done this overview, we found out that the operationalization of the ‘sustainable development’ concept is understood in its own specific manner, at least not in terms of the generally accepted Brundtland definition. The company does not report on sustainability in its annual report or use a specific comprehensive web-page section; so, this concept itself was mentioned once. If we look to the Acergy’s web-page we will find out that “all projects undertaken by the company are conducted in remote and harsh environments which present a wide set of challenges and risks. By this reason Acergy aims to push back the boundaries of seabed-to-surface development and construction but always in safe ways” (Acergy’s web page, 2009).

Some disclosures of sustainability data are published in the QHSE section (quality, health, safety and environment). It provides an external user with the QHSE targets and makes a short review of tables and figures related to the accounts of human injuries and other accidental events. As Ms. Skaar said that “The business of Acergy is projects which are usually big and complex. Certainly, we are trying to work in a rationale and safe manner, but the concept of sustainability is quite new for Acergy, and, frankly speaking, it is a problem to clarify if it is an effective tool for business or just a waste of time”. So, according to her words, ‘sustainability’ in Acergy is understood with regard to rationality and safety as the main pillars in the projects. Generally, ‘sustainable development’ is comprehended through the lens of corporate QHSE concept: “When it comes to QHSE, everyone in Acergy is expected to show responsible leadership. Wherever potential risks are identified it is not enough simply to report the problem – we expect everyone working with us to actively intervene. In keeping with our safety vision, an incident-free Acergy workplace every day, everywhere, we aim to reach the attainable goal of nobody hurt, no damage to the environment and no damage to property, vessels or equipment” (Acergy’s web-page, 2009).

Going in-depth to other corporate levels we have interviewed several Acergy’s representatives: an environmental advisor, a QHSE engineer, and an offshore project engineer. Trying to work out to what extent CSR and sustainability practices were applied at that moment we asked the

meaning of ‘sustainability’ for the Acergy’s personnel. And usually the answer was: “Well, it is a complicated task to explain it clearly to you as we still have neither sustainability nor CSR departments and not practicing external social or environmental reporting, it is only in our future plans.” Another interviewed person, an HSE advisor, claimed that when operationalizing sustainability in terms of shipping and subsea facilities installation he looks at the issue from “the perspective of certification process”. As we see the concept of ‘sustainability’ is understood more from the position of internal usage of management systems like ISO / OHSAS procedural standards. This practice is voluntary and usually does not suppose what and how to report.

Especially, this new concept is too difficult to be comprehended by the engineering personnel because they can’t make up their minds how the production of sustainability disclosures influences their professional routines. Nevertheless, internal social responsibilities in the form of HSE external as well as internal data disclosing practices are implemented. The engineers, for example, are extremely concerned about the maintenance of health, safety and security standards and disclosing data on human accidents in the open sea. So, the ‘sustainability disclosure’ issues are in the responsibility of QHSE and risk managers.

Summarizing this section, we assume that Acergy has its own way of understanding of the ‘sustainability’ concept. Sustainable development in this company relates to the “management practices that will not degrade the exploited system (the external environment) or any affected system (human and material capital)”. We have assessed the criterion of general understanding of sustainable development within the issue of external reporting as we have done for the NSA participants. The reason of giving a low score is that three sustainability dimensions were just mentioned on the web-page and in the annual report. Concerning the human perception the concept of sustainability and the use of its reporting in Acergy are on the beginning stage, though HSE advisor claimed that “at some level you start to see the point and you understand that it has effect. When somebody impose rules on you have to do it, but it is good, because you can’t always depend only on financial expenses, but take into the account the sustainability issues as they also influence your cost-effectiveness. You do it because you think it is necessarily and also because you have to do it”. Still ‘sustainability disclosure’ production is only at its start-up in Acergy, the further analysis will be conducted making the accent on its QHSE disclosures.

#### **4.4.1.3 Sustainability disclosures: rationales, key stakeholders and data expectations**

Speaking about the rationales for sustainability disclosures, our respondent assumed that the most important is the meeting of stakeholders’ needs and expectations. The interviewee said that

the disclosure of the non-financial (sustainability) data has become a crucial issue due to the requirements which Acergy gets directly from its clients before starting any project, “especially when it comes to quality requirements in terms of how we follow them with parts and details of contractors. Our clients have especial concerns on pipeline installation, so Acergy builds up its management system to maintain the safety and security of installation based on the requirements of our subcontractors and suppliers. Usually we have not a single set of requirements which we take and follow. These requirements differ depending on our clients”. Concerning the reports of safety and security data, it is regulated by the industrial technique ‘Client – Contractor’ HSE reporting needs. The scope of reports differs from client to client, as he mentioned above “requirements which we take and do, they usually differ depending on the clients”. The use of this standard provides a company with the legitimating of offshore services which bring impact to the environmental and human assets. The essential motive of legitimating the supply of important resources is the increase by raising the awareness of key stakeholders (e.g. increasing external reporting to clients) as well as the raise of corporate transparency during all the stages of a project.

The next crucial rationale is the pressure of governmental authorities. Mr. Berg stated that “the most critical data need is the environmental reporting, though in different countries the requirements vary. In Norway, we are forced to decrease nitrogen oxides (NO<sub>x</sub>) and report on this issue as well, because there are very high taxes on the old vessels, which produce great mass of pollution. That is why the last time we are trying to build new vessels which practically do not produce NO<sub>x</sub>. We also have to push our suppliers to make them sustainable. But, nowadays, it is easier to pay pollution fee, than use proper technology in order to avoid environmental impact”. So, the issue of external reporting relates to the governmental GHG emission control, which is always put into the political agenda of the Norwegian government. This agenda is reflected in the Action Plan for Sustainable Development as a part of the national budget plan. So, the authorities expect the systematic reporting on the environmental impacts basing on the Norwegian Accounting Act (in case of the offshore supply industry - NO<sub>x</sub> emissions) from all the business entities which produce such environmental impacts. Here both O&G clients and sub-contractors are involved and pressured by the Norwegian authorities. HSE advisor outlined that all the companies put the target of profit maximization, and the Norwegian government “is considered as the main stakeholder, because it also can put pressure on our clients”.

Another important rationale for sustainability disclosures in Acergy bases on responsibility towards employees. It includes the internal information sharing and control processes through all

the organizational levels. Sustainability disclosure provides an internal corporate reason to deal with corporate sustainability. The first reason is the requirement to follow the Norwegian Accounting Act with its section which regulates the external reporting on working environment. The second reason appears from the employees expectations. As the HSE engineer mentioned: “Our working personnel, especially, those who involved in the marine offshore operations, are extremely concerned about the maintenance of health, safety and security standards and reporting data on any human accidents”. Additionally, sustainability disclosure can establish routines for considering sustainability-related information to be part of business information used by decision-makers at the company’s headquarter.

Mr. Berg added that “at some stages government has to say that companies will be rewarded if you are doing it in expensive way and develop special field” (for example, tax reduction for applying a clean, but expensive technology). The rationale for disclosing data on sustainability impacts relates to getting rewarded for this practice. This can play a role of a signal of corporate performance for the pressure groups. Offshore supply enterprises have a possibility to get a competitive advantage and contribute to a positive reputation. Speaking about the sustainability reporting and the Acergy’s competitiveness, HSE advisor pointed out: “if you don't start publishing sustainability reports, you will probably have huge disadvantages. If we want to compete with Technip we should start thinking about Sustainability reporting”.

Finally, the rationale of disclosing sustainability data is an effort to make the whole supply chain sustainable. It is implemented in terms of quality maintenance as well as the maintenance or increase in corporate reputation and brand value. Mr. Berg stated that Acergy is very attentive concerning these issues, though its suppliers are different and Acergy’s expectations according to their report differ. So, the Acergy’ sub-contractors are divided into three levels with regard to their responsibilities:

Level “0”. Supplier’s production is not checked. For example, paper suppliers do not have to go through the check-up process. In this case there is no need to generate a report on sustainability issues

Level “1”. The suppliers which deliver various technical components have to be accountable for the production. They transfer their documentation on financial and QHSE parameters to Acergy. Supply chain department collects all these documents, put them together in e-mail and then the request is made to Quality Assurance department which conducts a review of documentation delivered. After that Supply Chain department generates a report, which includes a set of



recommendations to supply chain management. Based on the all provided information a conclusion is made about the further cooperation with suppliers.

Level “2”. The strictest level concerns the suppliers which directly produce technical components, for example, pipes or somewhat that can be installed. Then Acergy demands the relevant reporting that the production meets all corporate systems requirements”.

Though, our interviewees are not assumed the Acergy’s suppliers as crucial pressure groups, we see this stakeholder crucial as supply chain influence the project from the beginning of its execution. If the parameters are no reported and controlled on time, the project will not meet the expectations of clients and authorities at a final stage. And this is, certainly the issue of corporate reputation and competitiveness that builds the survival of an offshore supply company.

#### **4.4.1.4 Mechanisms of sustainability disclosures**

The identification of mechanisms clarifies the issue of “how?” Acergy do apply to manage the production of sustainability disclosures. According to the norm level these mechanisms have been developed in two frameworks: regulative and normative. The result of this development has reflected in a set of international, national, industrial standards, guidelines, recommendations, management systems for the production of sustainability disclosures. Several interviews with the Acergy’s employees shed the light what techniques are currently applied in terms of sustainability data disclosures.

We start with the international regulative frameworks. Being a offshore sub-contractor, Acergy operates its own fleet for seabed-to-surface construction process when executing an offshore supply projects. Any supply maritime operation has always been associated with GHG emissions (mostly CO<sub>2</sub>, NO<sub>x</sub> and VOC etc.), harsh liquid spills and other environmental incidents which a marine sub-contractor faces when operating in the open sea. As a shipowner, it is a mandatory practice for Acergy to follow the Convention 73/78 developed the International Maritime Organization. In terms of environmental reporting referring to Convention a shipowner has “an explicit requirement to report to the International Maritime Organization about incidents involving discharge into the sea of harmful gases and substances”.

All the Norwegian shipowning companies are to follow a stricter than the IMO requirements legislation of the European Union. They are in force and refer to the following ‘sustainability’ reporting dimensions: reporting the data on SO<sub>x</sub> content in ship fuel and one concerns the faster phase-in of double hull oil tankers. The former EU / EEC directives oblige Acergy to report data

on SO<sub>x</sub> in addition to CO<sub>2</sub>, NO<sub>x</sub> and VOC, the latter reporting dimension concerns another maritime logistics cluster which operates tankers for oil transportation. With regard to the international requirements Mr. Berg stated that “the most critical data need is the environmental reporting, though in different countries the requirements vary”.

The most important framework of sustainability reporting for Acergy is the compliance with the requirements of the Norwegian Accounting Act which oblige any Norwegian business entity to report on the accounts of working environment, impacts on the external environment, and gender equity. Though, we have not found the reporting on these issues the section of boards of directors in the Acergy’s annual report on its web-page, it is obvious that this mandatory data is transferred directly to Bronnøysund Statistics Centre (Norway) due to the requirements.

The next mechanism, which is applied by the majority of NSA participants, relates to the procedural standard of ISO. Though the standards ISO 9001 “Quality management” and ISO 14001 “Environmental management” relates to the sustainability issues and they do not provide a clear guidance on what to report and how to report. It is considered only as an applied management system to register and measure the particular non-financial indicators on some technological stage of operation without data obligatory data communication. When we talked to the HSE advisor he supposed that the issues of this concept are more understood from the position of the certification process of HSE activity at Acergy. He stated that: “Here in Norway and in Canada our company operates using ISO standard 14001 and 9001:2009. The implementation of ISO 14001 is verified by Det Norske Veritas. Acergy has employees who follow up all environmental certifications. When we are signing a contract we have a set of requirements from ISO and we also incorporate with the clients want to be particular when it comes to the additional details of the ships. So, we satisfy requirement in addition to what we have done already according to ISO certification”.

So, the practice of ISO 14001 is usually improved by the requirements of clients, especially, in questions of HSE. As our interviewee specified Acergy’s clients as one of the most crucial pressure groups we suppose that the contractual relations in terms of HSE are managed through the industrial NORSOK standard. It provides the particular set of accounts which Acergy, for example, must report directly to its client. In this case ISO 14001 plays role only as an additional practice which is adopted by the majority of the NSA companies.

When it comes to “Quality management” certification process, there are no mandatory requirements for Acergy on what to report and how to do it. Mr. Berg outlined that “Acergy has

very strict quality requirements for technical components and details delivered by its contractors. Quality as HSE requirements come directly from the clients who are especially concerned about pipeline installation. So, the quality management system is built up to maintain the security of installation based on the requirements of our subcontractors and suppliers”. The mechanism of quality management at Acergy is split into two branches: 1) Quality Control branch which conducts the negotiations with subcontractors making sure that technical components are fixed in a proper way; 2) Quality Assurance branch which makes the analysis of reports, monitors the contract, in order to satisfy clients need, everything what is stated in the reported data on a contract should be observed, analyzed, improved and verified. As well the implementation of ISO 9001 goes through the verification of Det Norske Veritas.

Speaking about the reporting issues on employees’ health, safety and security the elements of OHSAS 18001 certification standard are applied at Acergy. If the head office wants to check how Human resource management is organized at the local offices level advisors are sent there, after that they present reports on occupational health and safety. Though, the HSE advisor claimed that “nowadays Acergy meets a part of OHSAS 18001 requirements, but this is not enough, as it is a very complicated and expensive process”.

What concerns the international frameworks of UN Global Compact and Global Reporting Initiative, our interviewees were not familiar with the UN GC tool of sustainable development. As for the GRI standard for sustainability reporting, Acergy’s representatives showed the notion of uncertainty of the GRI adoption in the nearest future. But, we will again repeat the words of Mr. Berg: “If you don’t start publishing sustainability reports, you will probably have huge disadvantages. If we want to compete with Technip we should start thinking about sustainability reporting”. So, currently the need for GRI standard application at Acergy is not identified.

#### **4.4.2 Case study of Technip Norge AS**

##### **4.4.2.1 Company’s profile**

Technip Norge AS (hereafter Technip), a Norwegian department of Technip Group, is a provider of project management, engineering, and construction services for the O&G industry. It is one of the Northern Europe's largest engineering and construction firms.

Technip builds drilling platforms, pipelines, gas processing plants, refineries, and petrochemical plants. Technip is organized into three business segments: Subsea, previously called SURF (subsea, umbilicals, risers, and flowlines) – 44% of activity; Onshore (chemical plants,

refineries, mining, and pipelines) – 47% of activity; and Offshore (oil and gas platforms) – 9% of activity. The company also manages some 50 operations centers on five continents, a fleet of nearly 20 ships, and several production plants.

In the **Subsea** segment, Technip engineers work to develop equipment capable of withstanding the extreme pressure and temperature conditions of hydrocarbon fields at water depths beyond 3,000 meters. In the **Offshore** segment, the Group is developing platform installation methods that reduce installation time and cost, as well as new platform models adapted for the exploitation of hydrocarbon fields in extreme climates such as the Arctic Ocean. In the **Onshore** segment, research and development efforts have enabled the capacity of mega-sized LNG complexes to be increased, the upgrade and refining of non-conventional resources and improvements in the environmental performance of industrial installations (Technip's web-page, 2010).

According to the issue of sustainability disclosures, Technip Group has created a separate corporate profile for sustainable development (SD) where it is constituted that “Technip’s main business activities relate to fossil energies (oil and gas), while the sustainable development of these resources is one of the key challenges facing humanity. In this demanding context, Technip offers its clients technological solutions that optimize natural resources, improve energy efficiency, respect the environment and reduce green house gas emissions”. Further, the main stakeholders and their expectations are outlined in the section; and the data on general SD approaches: the principles of UN Global Compact and the sustainability performance assessment at Dow Jones Sustainability Index. Sustainability reporting at Technip is implemented through the application of Global Reporting Initiative standard to draft and publish Sustainable Development Report. In 2009, the Technip Group started going through the GRI verification process.

#### **4.4.2.2 State of sustainability disclosures**

Technip became the second enterprise in the Norwegian O&G offshore supply cluster we have analyzed in terms of ‘sustainability disclosures’. Before speaking with a company’s Norwegian representative, we had a look at what Technip Group does disclose relating to the issues of sustainability and what the concept of sustainability does mean and how it is governed.

***The insight into the Technip Group.*** The company’s general priorities of sustainable development are reflected in the words of Thierry Pilenko, Chairman and CEO of Technip Group: “The objective of our company is to promote sustainable development to all of our

stakeholders, which is the cornerstone of our day-to-day activities throughout the company. Our approach can be seen, first and foremost, in our commitment to our people. We will not compromise when it comes to the safety of our employees. I have personally pledged to make Technip the reference company in its sector in terms of workplace safety. Similarly, our commitment to local communities is essential for the successful execution of our projects. The fact that we are a multicultural corporation with employees from 92 nationalities and operations in 46 countries is an undeniable strength in the implementation of this approach. Finally, our very mission is to propose innovative solutions that will contribute to the development of tomorrow's energy resources and to better environmental protection.” According the definition of ‘sustainability’ Technip incorporates in its strategy all three pillars – socioeconomic (the development and contribution into local communities), social (employees’ health and safety), environmental (mitigation of GHG emissions, environmental protection, the development of new energy resources).

In terms of the stakeholder communication process Technip is committed to delivering the highest level of satisfaction for partners, clients, shareholders, employees and the inhabitants of local communities in the countries where it conducts business, in compliance with its core values. These values, which have been approved by the board of directors, form part of an integrated approach to sustainable development. Technip's values for SD are set forth in six charters covering ethics, human resources, the environment, health and safety, quality, and security. In order to govern and enforce the values Technip's Ethics and Sustainable Development committees, established in 2001 and 2004 respectively, oversee compliance with these charters (Technip’s web-page, 2010).

Within its daily on- and offshore activities Technip outlines the following stakeholder groups with the clear determination of their needs and expectations: 1) Clients: value creation through quality services and execution of high-performance installations; 2) Suppliers: creation balanced long-term relationships with the key business partners; 3) Environment: proposal of innovative solutions to meet today's energy challenges, preserve natural resources and protect the environment; 4) Employees: development of skills and expertise; sharing; 5) Shareholders: creation of long-term shareholder value; 6) Local communities: socioeconomic development of the regions where Technip operates.

The sustainability reporting process is managed and controlled by Sustainable Development Committee, managed by its chairman. The Committee comprises 10 members from various departments of Technip and conducts the coordination of sustainability reporting approach. All

the proposals are presented, first, to the Executive Committee for the implementation and optimization of the Group's approach and the drafting of Sustainable Development Report. Relevant data on sustainability for the report's draft is collected by the professional network of 97 correspondents spread among all the Technip' departments. These correspondents assist the Head of department in applying the Group's approach locally and mobilizing employees in order to achieve set objectives. Using this mechanism every international department in the Technip Group, including Technip Norge AS, contributes into the implementation and drafting of the corporate sustainability reporting.

*The insight into Technip Norge AS.* Before conducting the main interview with Øyvind Loennechen, a QHSES manager of the Technip's Norwegian branch, we had a brief talk with him about the details of our question list. First, he told us that the department of Technip Norge at Stavanger has not practiced sustainability reporting as it has been done in the Head office in Oslo, but, anyway, they contribute sufficiently into sustainable development and reporting by implementing QHSES mechanisms. In this case, we agreed that sustainability in Technip Norge would be analyzed in terms of reporting data on health, safety, environmental and security reporting with regard to the Group's established values and strategies.

The production of sustainability disclosures in Technip comprises the reporting data on health, safety, security and the environment. In terms of 'sustainable development' the scope of reporting bases on the pillars of environmental protection and internal social issues, the socioeconomic contribution is in the responsibilities of the Technip's department in Oslo. As we have found out the objectives of HSE reporting are developed from the corporate objectives of the Group's Sustainable Development report. In the process of any offshore project execution the achievement of HSE objectives are put into the priority. These objectives include the aspects of "prevention of injuries to personnel, provision of a safe working environment for our employees, subcontractors and other affected by our operations, the conduction of the operations with the minimization of damage to the external environment", - Mr. Loennechen outlined.

Generally, Technip specifies its HSE objectives for the Norwegian operations in the Contract HSE Program with the following crucial points: 1) high safety awareness at all levels in Technip Norge's organization; 2) the safety target is zero injuries to personnel; 3) the health target is to conduct our activities so that all negative long-term health effects are avoided; 4) no occupational illness and personnel exposure to hazardous materials; 5) no damages to property; 6) No loss of proprietary information; 7) ensure professional handling of medical treatments / medical emergencies at all worksites; 8) the minimization of consequences of any potential

incidents; 9) the prevention recurring accidents by means of 'Route Cause Analysis' and experience transfer; 10) ensure effective Incident and Hazard reporting.

The objectives of sustainability disclosures in Technip are clearly put into the agenda of daily operations, though we notice that the accent is made more on the safety and security issues. As our interviewee pointed out "no project will ever be so important that we cannot afford the time to do it safely". The theme of reporting on sustainability issues is touched as well. One may conclude that the demands of corporate sustainability are satisfied in Technip Norge by the achievement of the HSE objectives. Sustainable development is incorporated in any Technip's offshore project in the form of HSE, so the relationship between sustainability, sustainability and businesses' ultimate aim is quite close. He added that "HSE is becoming professional activity with a lot of specialized reporting, inspections, and what Technip is trying to achieve within HSE is a line management's target".

#### **4.4.2.3 Sustainability disclosures: rationales, key stakeholders and data expectations**

Frankly speaking the rationales, key stakeholders and data expectations for the production of sustainability disclosures in Technip seems similar referring to the case study of Acergy, because the companies are included to the same activity cluster, do the same offshore supply operations in the open sea, and their impact is quite similar. However, the perception of 'sustainability reporting' role will be different as Technip Group have been reporting on sustainability that is why the employees in Stavanger are familiar with this idea and contribute in this reporting through the registration and measurement of HSE indicators.

In the insight into the Group's we identified six critical stakeholder groups whom the company is accountable to: clients, suppliers, environment, employees, shareholders, local communities. In the framework of Technip a set of stakeholders differ due to the national context. QHSES manager outlined: "At first, our clients, then governmental authorities, because the Norwegian authorities have a large impact on the industry as a whole. We also have liability to the personnel with long-term injuries. Then we are accountable to workers' unions, workers themselves, it also can be the local community. The engineering branch such as our office in Stavanger does not have impact right here, but at the worksites where we build and manufacture it will have impact, and if we manufacture a crude product that ends up spills to environment, of course, it will affect local communities. All these stakeholders are Technip's pressure groups, but environmental groups are central". So, as we can understand Technip considers the external environment, the governmental authorities and, of course, its clients as the primary stakeholders. Then he outlines

Technip's employees (engineers and workers), workers unions, and local communities. As a result these particular pressure groups are forming the expectations of data on sustainability issues. These expectations are taken into consideration within the decision making and HSE reporting concerning a project under implementation.

As in case of Acergy the important rationale of reporting data of sustainability issues is the pressure of the Norwegian government which expects data, especially, on the environmental and social performance. As Mr. Loennechen said: "By the foundation of HSE reporting a part of it had been mandatory in terms of the governmental reporting, including tax reporting, human resource reports and the specific parts of HSE reporting like 'incidents reporting' related to environmental impact. When our personnel are injured you must report to authorities by the insurance reasons and for long-term effects".

This governmental reporting is supposed to be done on a regular basis in comparison to the reporting to working unions, for example. Our interviewee added that "we do not have regular reporting to unions. We have employees in a local unions organized within Technip, which we have meetings with. But there is no organized reporting, as all the departments share the internal reporting system and every employee has an access to its resources". So, the pressure of Technip's working union is not so critical comparing with other stakeholders. Speaking about the reporting periodicity in general it depends on what is supposed to be reported. "In projects it is usually once a month. If we have accidents we use a notification matrix to follow depending on how serious an accident was. Some reports are done immediately or within hours", - Mr. Loennechen said to us. So, the reporting is systematized in accordance with the impact of accident, in order to report on time and make a right decision.

Certainly, the compliance with clients' needs and expectations seems to us as one more crucial rationale of sustainability reporting in the form of HSE. The interesting point here is what the clients' preferences are when they choose a contractor to execute a project, what they see the most critical in reports of contractors – positive statistics on health, safety, security, and the environment or cost-effectiveness, especially "when everyone claim about the crisis and need to cut costs". According to this problem our interviewee stated: "Certainly, cost efficiency plays the key role in our business, but I believe that in Norway we are extremely involved into HSE, and we want to prevent all the possible accidents. Also our clients like to see good HSE statistics". So, the preferences of clients when operating on the Norwegian Continental Shelf in terms of Contractor's assessment are in favor of HSE performance. The reason of this preference was explained as following: "Cost effectiveness is not only financial expenditures. It also a cost



effective way to work with no injuries to people, no pollution into the external environment, in order to spend no cost for cleaning up, spend no energy on conflicts with local pressure groups". Sustainability is a part of cost-effectiveness for Technip, as if you operate in a sustainable way and report on what your company has done it can reduce costs sufficiently in a long-term perspective. When clients analyze HSE report they can see company's risk picture and make a decision of signing up a contract. "If you have a lot of incidents and accidents, it is a higher risk picture for clients to be involved and that is question of good reputation for them as well, but not only reputation, also resources and money for them that takes the focus away from what they want to achieve", - our interviewee stated. Here is also the issue of the governmental pressure on clients as the authorities influence the whole O&G industry in Norway. The O&G companies get the particular set of requirements for accomplishment of an offshore project. In their turn the clients make an assessment of the future contractors, that is why comprehensive good reports on social and environmental impact (e.g. sustainability reports) are indispensable for contractor's corporate performance: "Good HSE conduction and good quality are the same as cost-effective solutions. If you have a lot of injuries you are losing competence among your people and this is not that the clients want to see. When we say cost-effective we mean a good control of accidents and incidents, a good control of operations, high competence with your employees, and ability to install your constructions safely".

#### **4.4.2.4 Mechanisms of sustainability disclosures**

Having determined the rationales, key stakeholders and their information expectations, the next point is to make an overview how the data disclosures on health, safety, security, and environment are implemented: what standards and guidelines are currently used and what internal management systems are applied.

Speaking about the international standards and guidelines, they are the same for Technip as in Acergy. Both companies are the shipowners involved in the marine offshore supply operations. By this reason they must comply with the international guidelines of MARPOL Convention 73/78 in terms of the environmental reporting of marine pollution and harsh liquids discharges in the sea. Also Technip follows the reporting legislation of the EU / EEC and complies with the Directive 2003/51/EC of the European Parliament. It requires the provision of "non-financial key performance indicators relevant to the particular business, including information relating to environmental and employee matters".

What concerns the national legislative framework with the Norwegian Accounting Act, we can state that Technip follows its requirements about reporting data on the external environment, working environment and gender equity. This data is published on the web-site in two separate documents as an addition to Sustainability report which is drafted with regard to GRI G3 international voluntary standard. Social section provides comprehensive report on relationships with employees including data on working environment, gender equity, cultural diversity etc. The environmental section reports on different types of emission, energy and material consumption, wastes and so on. As well Technip Norge reports this data to Bronnøysund Statistics Centre as it is a mandatory practice required by the national government; the report is available to interested external stakeholders. As for Technip's Sustainability report, its quality and consistency is verified by GRI organization, though this practice started only last year.

The next point is the use of management systems internally applied by Technip. It is an important issue as the sustainability (or HSE) reporting is based on data registered, measured and controlled by specific systems integrated in the company's day-to-day operations. As many other companies in the NSA Technip has adopted the DNV certification for ISO 9001 "Quality", ISO 14001 "Environmental management". The verification of these standards is also done by DNV. The issues of personnel health and safety are managed by the standard OHSAS 18001. In our view, these systems are adopted due to the normative diffusion when companies act according to established values and norms.

As ISO and OHSAS do not provide guidelines of what to report and how to do it, Technip implements its own internal system for HSE reporting called "Synergy". This system is quite heavy at a first glance as it comprises all cases, project and operational locations, and different HSE reports can be generated. The HSE indicators registered and measured to make the further risk assessment are the same as in NORSOK standard for the contractual relationships and in 'Achilles' qualification database to evaluate the sustainable procurement of a project. Mr. Loennechen provided us with the explanation of system mechanism: "If we want to see the scale of risks in some projects, we just tape the number of project to see what we have. If there is an accident everything is visible through the system". He also mentioned that Acergy and Subsea 7 have if the not the same, but quite similar systems for reporting accidents or incidents.

Another system which makes a contribution into the Group's Sustainability report is "Risk Management System". As we understood from the system presentation it is also some kind of database system like 'Achilles' where sustainability indicators are controlled from the early stage (e.g. tender phase) and also during the whole project. Due to this system, different risks can be

overviewed on the project. Then, if a client makes a HSE data request reports are send the clients. The extremely high risks are automatically shown in Paris to the top-management. According to the mechanism of this system we got the following explanation: “We gather different persons in the project – managers, HSE advisors, and engineers. Then we have some kind of brain storming to find out what kind of risks do we see in the system, how to handle different risks. When we begin with the risk it is usually quite high, when we come up with a lot of mitigations it is getting lower by the end. We have a following color interpretation of risk rate: ‘Red risks’ – sky high; ‘Yellow risks’ - quite high; ‘Green risks’ – low risks”. It means for us that Technip’s sustainability reporting system as in Acergy bases on registration, measurement and presentation of health, safety and environmental data. The process is rated by the importance of data to be reported and the employees from several corporate levels participate in the decision making process. Certainly, the final decision of what to report is made in the head office by Technip’ board of directors and Sustainable Development committee.

### **Summary of findings**

Summing up, the status of ‘sustainability disclosures’ in the Norwegian O&G offshore supply companies (and the NSA members, in general) is rather different according to the questions of operationalization, rationales of implementation, extent, and mechanisms. Having conducted the empirical part of our research we have come to the following points of departure for the further discussion.

- Understanding of ‘sustainability’ concept. The concept is operationalized in the different ways. The majority of the NSA companies, including the O&G offshore supply cluster, have the individual commitment to the issues of sustainable development and the comprehension of this concept. The case offshore supply companies Acergy and Technip have totally different views on this problem, but the core idea is the HSE issue, in general.
- Too much rhetoric in disclosures of the sustainability issues. Lack of comprehensive structured sustainability statistics, measurements, figures. The disclosure extent is quite weak; very few companies provide comprehensive sustainability data with regard to general understanding of sustainable development, management systems, codes of conduct, and supply chain management.
- The production typology of sustainability disclosures varies from company to company. Three groups of the NSA companies are outlined with regard to the way of disclosing

sustainability data. They are: 1) companies disclosing web-based data in addition to annual financial reports; 2) companies disclosing data in the form of joint reports; 3) companies disclosing data in the form of separate sustainability reports in addition to annual financial reports. The cluster of O&G offshore supply has the same typology distribution.

- Lack of standardized approach for sustainability disclosures' production. Inconvenience of data usage.
- The main rationale of sustainability disclosures is meeting the data needs and requirements of the national government and clients, which are considered the crucial stakeholders.
- All companies comply with the international sustainability reporting requirements of the IMO and the EU / EEC. But the accent in this reporting is made mostly on the environmental issues.
- The governmental requirements for sustainability reporting refer to the accounts of the Norwegian Accounting Act: external environment, internal environment, gender equity. Only 28% of the NSA companies include these accounts in their annual reports; this is done almost the half of the Norwegian offshore supply companies. Others just transfer this data to Bronnøysund Statistic Center where it is available to all stakeholders. This practice is compulsory for all the Norwegian registered companies.
- The voluntary sustainability disclosures are characterized by the domination of procedural frameworks of ISO and OHSAS. But they provide only registration and measurement of sustainability data mostly for internal usage. The communicational guidelines of what to report and how to do it are absent. All the NSA construction companies, including the offshore supply cluster, report to clients following the guidelines of NORSOK industrial standard through 'client - supplier' database system. It relates mostly to the disclosure of HSE indicators during offshore project accomplishment.
- The application of GRI G3 and UN GC international reporting standards is revealed only in 6% of the NSA companies. Only one offshore supply company reports on sustainability with regard to these sustainability reporting standards.

## Chapter 5. Discussion

The present chapter of our master thesis aims to discuss the results which we have gained through the empirical part as it helps us to carry out the appropriate conclusions for the questions stated in the work. This chapter is to discuss the findings in order to find answers for ‘why?’, ‘how?’ and ‘to what extent?’ sustainability disclosures are produced in the Norwegian offshore supply companies. We are to make the interpretations of our findings in accordance with the theoretical frame of reference and the previous relevant researches in the literature conducted earlier.

### 5.1 Sustainability disclosures: ‘silent’ offshore supply industry?

The first section of discussion is dedicated to the issue scope of sustainability disclosure issues within the Norwegian offshore supply companies, so we will specify what is going on with the disclosure extent. This question identifies how companies in the offshore supply cluster do accumulate specific sustainability data and organize the communication process. In general, this relates to the practice of accounting (e.g. sustainability accounting), which comprises data registration, measurement and communication stages. For our research the stage of data communication reflects the issues of ‘sustainability disclosures’ in the particular context.

The role of sustainability accounting and disclosures seems quite important the last decades as they give a support to conventional financial accounting. It is assumed that the conventional financial accounting is no longer provides a complete account of business. In our case referring to Mellemvik et al. (1988) sustainability accounting provides the additional informative support in order to reduce uncertainties to improve control and make appropriate decisions. In frames of the offshore supply companies’ routines these uncertainties traditionally relate to health, safety, environmental, security risks which always accompany any offshore construction project. In the business context, information about sustainability impacts and performance may help managers to embed sustainable thinking into the process of strategic planning.

Sustainability disclosure (and the concept of disclosure itself) is quite broad by its nature as it includes different practices of how information can be disclosed to stakeholders. In case of the O&G offshore supply companies we have outlined the extent of sustainability disclosures using the following typology:

- 1) Disclosures in form of web-based data in addition to annual financial reports – we assumed this as ‘the low content of data’ without disclosure of board of directors’ report (the NAA

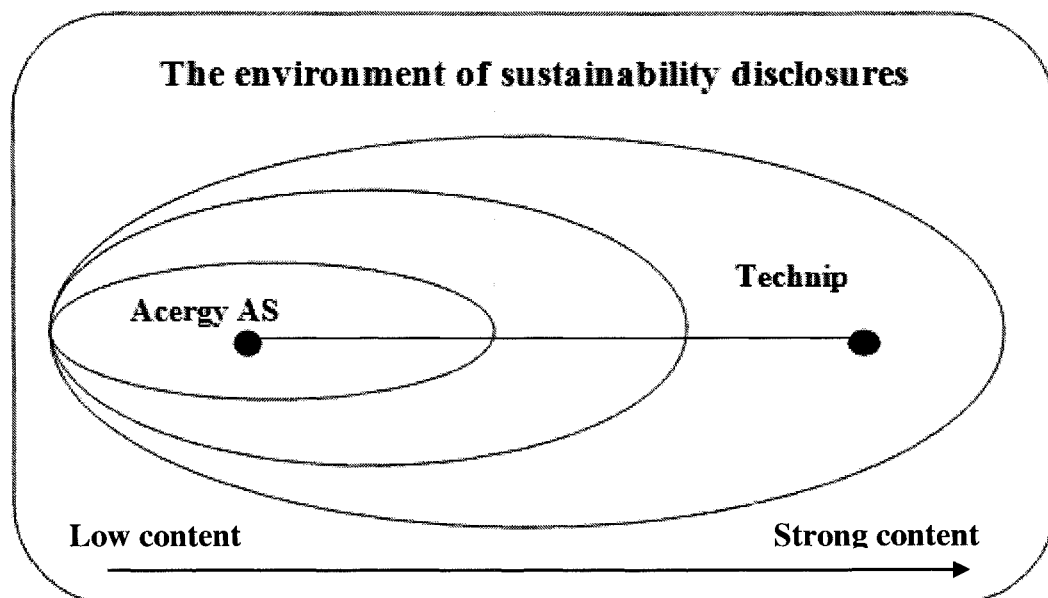
accounts). The accent is made more on the procedural internal standards like ISO to cope with the HSE issues. Here we may refer to the case example of Acergy;

2) Annual financial reports with the section which discloses the board of directors' report (the NAA accounts);

3) Joint annual sustainability (CSR, TBL, environmental, HSE etc.) reports – may be characterized by strong data content;

4) Disclosures in form of separate annual sustainability reports in addition to annual financial reports - may be characterized by strong data content, which includes all the sustainability dimensions, and the application of sustainability reporting standards like GRI. Here we may refer to the case example of Technip.

Basing on this disclosure typology the following figure below visualizes the extent of sustainability disclosures in the offshore supply companies in Norway:



*Figure 26 .The extent of sustainability disclosures in the offshore supply companies*

The explanation of this figure is following. There are three ellipses, that are influenced by the external environment of sustainability disclosures, reflect the scope of sustainability disclosures in the Norwegian offshore supply companies. The smallest ellipse is characterized by the low content of sustainability data. This is the web-based disclosed data in addition to annual financial reports. The case company which belongs to the smallest ellipse is Acergy (a black dot inside on the left). The small ellipse is included into the bigger one, which in its turn is inside of the

biggest one that has the strong content of sustainability disclosures. The offshore supply companies like Technip (a black dot inside on the right) with representative joint or separate sustainability reports are included in the biggest ellipse. The arrow below shows the growth dimension of the sustainability disclosure extent in the particular context.

So, what is going on with the Action System of sustainability disclosures in the offshore supply context? Having conducted the survey we have revealed that the dominating disclosure type is the web-based data publishing, though the amount of data varies from company to company. In general, there are more companies that can be named as “DOers”, which accomplish their internal reporting using the procedural standards while the external disclosure on web is not representative. However, we underline that the usability of these external web disclosures is rather weak as in some cases they are unstructured. By this reason we make an assumption that the Norwegian offshore supply cluster is ‘silent’ in terms of sustainability disclosures, because of the lack of ‘talks’.

What concerns the disclosure of the NAA accounts, the picture is quite similar to web-based sustainability data. Only 28% of the NSA companies include the NAA accounts’ disclosure in their annual reports (and there are 17 out of 40 offshore supply companies). So, approximately the one third of the companies in the NSA (and 17 offshore supply entities) is considered as “talkers”, which disclose data on their sustainable development. Others may be specified as “DOers” which comply with the governmental reporting requirements and just transfer data on the NAA accounts to the Statistic Center without the external publishing.

Very low percentage of the companies has comprehensive and structured sustainability joint or separate reports published through the application of sustainability reporting standards. What we have revealed is the lack of comprehensive statistics on sustainability indicators and too much sustainability rhetoric, if we take the criterion of general sustainability understanding. It may mean that sustainability disclosures’ intended function is PR and the maintenance of corporate image than a tool to reduce uncertainty.

One more point here is that almost every offshore supply company provides data of compliance with the procedural standards of ISO or OHSAS. But there are no clear descriptions of the particular sustainability indicators they do register and measure and what technological stages they are applied to. Generally, there is rhetoric for sustainability management systems in the disclosures analyzed. Though, referring to our case studies, offshore supply companies neglect external disclosure concentrating on actions than on talks to reduce HSE uncertainties inside.

That is why they implement the internal procedural standards like ISO and OHSAS but avoid PR of sustainable development. Some companies include the codes of conduct concerning the sustainability issues but their use corresponds only to what should be done. In our view they are only an instrument to make a disclosure more representative – it shows that a company maintains an open dialogue concerning sustainability issues; it ‘talks’ about how to cope with them.

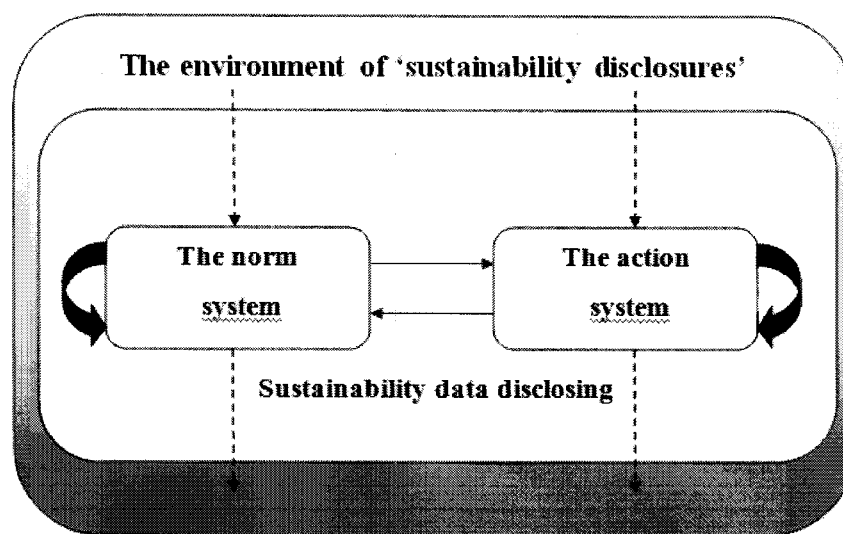
The case studies of two offshore supply companies gave more knowledge about sustainability disclosures. The sustainability disclosure in Acergy is presented through web-based data related to the issues of health, safety, and environment in form of figures and other statistic data. But the external disclosure in the web is not so representative; it means there are not so much ‘talks’ on the issue and more concentrated on actions. Most of sustainability data is used internally. For example, the HSE reports for employees are produced through the internal data systems and available only to internal users. Almost the same system is used by Technip. So, the internal reporting process is organized in quite a similar way: both companies have a set of projects and both produce the reports of HSE indicators to head-offices and employees. The main difference is in how the offshore suppliers do communicate sustainability data externally. Technip applies GRI G3 international reporting framework, Acergy just discuss the issue of sustainability reporting the long-term perspective while doing sustainability disclosures making an accent on the HSE data and risk indicators. The point is that Acergy does in its own way with regard to ‘project engineering’ context. The communication process with clients is organized in the same way – through the ‘client-supplier’ database “Achilles”, but, again, it relates only to HSE reporting. Also both companies transfer the obligatory board of director’ report to Bronnøysund Statistic Center.

We summarize that similarity can be revealed in the sustainability disclosures of Acergy and Technip. Both offshore suppliers are accountable to the national government and clients on the regulatory basis. So, the content of reports is approximately the same, but in the case of Acergy the scope of stakeholders is not wide as it is not available to all affected stakeholders. So, Acergy is a “DOer” by our classification. Not all players are engaged in the dialogue of sustainability issues as the disclosure process is more internal. Technip is considered as a “talker” as it produces separate comprehensive sustainability report on the annual base uploading it on the corporate web-page where all interested users may get data on to what extent this offshore supplier is sustainable.



## 5.2 Learning from procedural, not from reporting norms

As the central point of discussion is the action system of sustainability disclosures within the offshore supply companies, here we will explain it using the model the institutionalization of accounting suggested by Bergevärn et al. Sustainability disclosures in action are in a strong interrelation with the external environment and the norm system. The action system is not a static figure; it has been developing dynamically through the learning process with two main ways of learning from one's own experience or from the experience of others (Bergevärn et al., 1995). It is shown by the set of incoming and outgoing arrows to / from the block of the action system. One may see it on the figure below.



Let's start from the influence of the external environment. The stipple thin incoming arrow show the action system is capable of learning from the experience of others. It can be shown from the historical retrospective through the development reflected in the disclosure of information regarding industrial social impact since the late 19th century. The next stage in its development began in only in the 1960's and 1970's that firms constituted greater innovation and experimentation in developing reporting formats and in publishing corporate goals and results regarding social and environmental performance. In the 1980's corporate interest in social disclosures stagnated, and the focus of non-financial disclosures tended to shift from social to environmental issues. A large amount of separate environmental reports has been published. In the latter half of the 1990's the topic of sustainability began making its presence felt in reports, and social reporting reemerged as an issue worthy of attention. So, it means that action system of sustainability disclosures has been learning and improving through the years adapting to the information demands and general tendencies of the external environment.

So, the institutionalization of ‘sustainability disclosures’ production through the learning process hasn’t developed in one moment. Rather, firms began expanding their environmental disclosures to cover a broader range of issues, combining economic, environmental and social concerns. Whereas the majority of disclosures in forms of reports in 2002 were titled “Environment, Health and Safety Reports”, and only a small percentage of reports were titled “Sustainability Reports”, by 2005 the tables had turned and most of them published by companies were “Sustainability Reports” (KPMG, 2005). In this case we can assume that many companies started publishing sustainability reports because of the overall trend. In general, we see this process in the form of mimicry with regard to the institutional theory. There are some companies who are proactive trend-setters; others just follow them in order not to lose competitive advantage and maintain their images on the market. It seems idealistic, as here we have made an accent on the learning only from reporting standards and haven’t taken into account the contextual peculiarities of the chosen industry. Further, we will go in-depth within the offshore supply industry in Norway.

If we take the sustainability disclosures provided by the Norwegian offshore supply companies, the range of disclosure typologies differs. Berthelot et al (2003) claims that the practice of Norwegian companies is part of an international trend: sustainability reporting is often neither representative nor reliable. He supposes a negative relation, for instance, the more a firm discloses, the worse its environmental performance’; in other words: the uglier the company, the more make-up – or corporate social responsibility as ‘greenwashing’. In this case we have an example of Technip Norge which has been annually publishing GRI G3 sustainability report since 2003. Some others limit their disclosures by publishing sustainability data directly on the web-page or reporting on accounts of external and working environment, gender equity in their annual financial reports. The majority disclose such data in the state statistic center without the external disclosure. It seems to us that there is no strong direct learning for the Norwegian offshore supply companies from the global ideology of sustainability disclosures, e.g. from the external environment. So, there is a lack of the mimetic process in relation to sustainability disclosures in this industry. The minority of the offshore supply companies follow the global trends in the sustainability reporting using, for example, the GRI standard. The initiative of the companies to disclose the “talks” on the sustainability issues is quite weak.

Coming back to the model above, the stipple thin outgoing arrow show the external environment of sustainability disclosures is capable to learn from the experience of the action system. The Norwegian offshore supply companies disclose HSE data to clients within the O&G

industry using the local NORSOK standard. The external environment of disclosures may take this experience to improve the international reporting frameworks, for example.

While we found out the lack of mimetic process in frames of the institutional isomorphism, the coercive process plays a considerable role in the development of the action system of sustainability disclosures. This is reflected by the incoming thin arrow from the block of norm system influenced by the external environment. It means that interested pressure groups like the international structures, the Norwegian government, the clients, employees' associations the norms system, which the action system is learned from. First, this is a coercive pressure from the IMO and the EU/EEC to produce reports (not just disclosures) including the particular environmental and social data. This crucial point explains the domination of the environmental and internal social data in the of the Norwegian offshore supply companies and among the members of the NSA as well. The compliance with the international regulations of the IMO and the EU is a strong rationale because of the pressure, and the strong pressure of the Norwegian national government in the complex with the expectations and needs of clients (e.g. O&G companies like Statoil, BP etc.). The environmental reporting performance is strictly regulated in the EU, so all the companies try to follow the requirements. The companies are very attentive to the expenses related to the emission taxation, environmental penalties, maintenance of green image etc. When it comes to reporting on social and socioeconomic issues, the international legislative system has currently no effective coercive mechanisms, for example, in form of penalties or taxes.

However, despite the strong coercion we observe the weak initiative in the industry for comprehensive sustainability disclosures. It can be explained by the point that there are no clear requirements companies to report on sustainable development. There is only the Norwegian Accounting Act (NAA) that requires the compulsory reporting on the particular sustainability accounts and also the recommendative document on corporate CSR of Ministry of Foreign Affairs published in 2008 – 'Norwegian white paper', which proposes a switch from a voluntary basis of CSR to mandatory. But, in spite of the regulatory nature of the NAA, not all the companies include these accounts in their annual reports. On the one hand, it appears as a gap between what must be reported and what is actually reported annually. Among the NSA participants only 28% of companies report on the NAA accounts in their annual reporting, other avoid this practice (some companies in maritime logistics cluster do not have annual reports at all). In the NSA cluster of offshore service 17 out of 40 companies include board of directors' report into their annual report with regard to the Accounting Act. On the other hand all of them

transfer these compulsory accounts to the state statistic center. So, in spite of the fact that not all the offshore supply companies include the NAA accounts into the annual reporting, they have to communicate this data through the statistic center. It confirms the coercive nature of the national legislation in form of the NAA.

According to the second document, after the publication of the 'Norwegian white paper' the reaction on this document was quite surprising. The message from the business sector has been clear: do not regulate our corporate responsibility and in return we will *talk* about how we should behave. And talk is often the result. Talk, marketing or downright 'greenwashing': the uglier the company, the more makeup (Sjåfjell, 2009). However, in one respect, the Government actually does take the step of discussing regulatory initiatives, namely that of expanded reporting requirements. The parliamentary committee that dealt with the paper supports strengthening the existing reporting requirements and also asks the Government to consider setting up an ombudsman for sustainability. But do increased reporting requirements constitute an adequate and progressive response? (ibid.) The continuous political debates and the absence of strict requirements with the open resistance of the Norwegian business sector explain the situation with the insufficient sustainability reporting practice. So, we see misunderstanding between the government and business in Norway in frames of expanding the reporting on sustainability. The companies disclose the sustainability data, but they do it in their own manner according to corporate strategies.

The most crucial pressure group for the offshore supply companies is the group of clients (also pressured by the government), which always have particular set of reporting requirement regarding the HSE indicators. These requirements of the clients define the reporting on the HSE issues as an essential part of sustainability disclosures. That is why the specific place is given to the procedural standards, which provide a basis for internal reporting practice to 'reduce uncertainties for the further decision-making and control' (Mellempvik et al., 1988) both inside the industry and inside the organization. The learning process from procedural standards of ISO and OHSAS provide a basis for internal reporting for employees involved in the offshore operations and for the analysts and the decision-makers. On the one hand, these ISO and OHSAS are voluntary, and logically their usage can be based on the mimicry. In case of the offshore supply companies it is more a coercion as usually their compulsory application is defined by the clients' requirements in the process of project accomplishment. However, it means that all affected stakeholders will not gain the information on sustainability, as the reporting process circulates in the triangle "authorities – clients - contractors". The good example here in the

reporting on sustainability through the 'Achilles' database system specially designed to systematize the reporting process between clients (O&G companies) and contractors (e.g. offshore supply companies). The existence of such a system and the circulation of HSE reports in this frame set the application of GRI G3 under a question.

The bold black half-circle arrow near the 'action system' block reflects that the system itself is capable to learn from its own experience. This way of learning refers to the HSE internal systems developed by the offshore supply companies like 'Synergy' and 'Risk management' in Technip Norge to support the reporting process. The HSE transparency to employees is a critical point as it is a part of a security system and contributes into the solutions of risk management. These internal data systems assess the sustainability risks and produce the relevant disclosures. Other companies in the cluster and the external environment of sustainability disclosures have a possibility to gain an experience from Technip, for instance.

The learning from own experience may provide a competitive advantage in the offshore supply cluster for company which is more proactive in the sustainability disclosures. For example, Technip produces Sustainability Report annually. If we look at the own experience Acergy, it has never implemented such practice of GRI reporting, just making some insufficient disclosures related to HSE. But, in general, it is on the same competitive level with Technip. The same we can say about their primary rival Subsea7. Does it mean that reporting on sustainability is only PR? Maybe, yes, but it may work effectively in the short-term period. We cannot make an exact forecast for a long-term period. It depends on how attentive clients will be in developing strategy to make their supply chain sustainable.

Finalizing, we assume that despite the implementation of various techniques of sustainability disclosures production, in general, the disclosure is inconsistent within the Norwegian offshore supply cluster of the NSA. Comprehensive disclosures are not always equivalent to systematic and well-structured reports that benefits a company and its stakeholders. The awareness of stakeholders is maintained by such sustainability disclosures. However, the quantity of disclosures dominates over the quality. Particularly in the offshore supply companies, the accent is made more on internal HSE issues than on all the three sustainability pillars. In general, the disclosures' content is characterized by rhetoric (e.g. advertising, successful stories etc.). The comprehensive sustainability reports were found out in few Norwegian offshore companies, Technip Norge, for example. Others, like Acergy, concentrate on the internal reporting issues of HSE data on sustainability, limiting the external disclosure practice to the general claims, applied

sustainability management systems and lacking comprehensive disclosures in the form of figures, measures or goals for environmental and social issues that are relevant to the enterprise.

### **5.3 Unnecessary disclosures?**

If the external sustainability disclosures in the offshore supply industry differs from company to company and are oriented on the internal issues of HSE, the question is what does make them necessary. Their role is particular, despite the weak external context of disclosures.

In the theoretical framework of accounting we have defined that sustainability disclosure in the form of reporting aims to reduce uncertainties and, consequently, achieve the corporate objectives. Except the objective of an organization, sustainability disclosures are important the interested groups, which expect the particular reports of the sustainability issues to get more knowledge to reduce the environmental, social and socioeconomic uncertainties

As we have specified, the most important stakeholders that considerably influence the Norwegian offshore supply companies are the national government, the clients (O&G corporations) – the external pressure groups and the employees' associations (or working unions) – the internal pressure groups. Every group expects the particular data on the sustainability issues to reduce uncertainties about how the offshore supply operations are safe, rationale, environmentally-friendly etc. In general, the sustainability data corresponds to the internal HSE data. We have revealed that the sustainability in most of companies has been functioning in another way. As Mellempvik et al. (1988) states that the intended function of accounting is in sharp contrast to the functions that are assigned to accounting in action. So, the accounting and the production of sustainability disclosures are under the contextual influence. The technology of accounting (registration, measurement and communication) is fulfilled more internally only for a set of stakeholders. The external comprehensive implementation in the form of “talks” on sustainability is more an exception from rules in the offshore supply industry than a regular thing.

In our opinion, the offshore supply companies made an accent more on the procedural standards and disclose data in the particular frames to the major actors in order to improve the value chain inside the Norwegian O&G industry. In other words, the companies legitimate their activity internally through sustainability disclosures to the most important pressure groups from the environment that directly influence the offshore supply activity. With regard to the legitimacy Mellempvik et al. (1988) outlined that most of organizations have to legitimate themselves in order to obtain resources from their environment. According to Brunsson (1985) there are three

ways to obtain this legitimacy: talks, decisions, and actions. An organization may implement one way either use these outputs in complex. With regard to this the Norwegian offshore supply companies were divided on “talkers” and “DOers” according to the extent of their sustainability disclosure production, which reflect the organizational actions.

#### **5.4 ‘Project engineering’-oriented context of sustainability**

In this section we will discuss one of the research questions how do the offshore supply companies in Norway define and operationalize the concepts in the particular context. Our theoretical frame of reference provided us with an overview of generally accepted definitions of ‘sustainability’ concept. It is interesting to make a comparison how theoretical data corresponds to the ‘sustainability’ understanding in the ‘project engineering’-oriented context.

Theory reflects that the interest to the profile of ‘sustainability’ concept has been growing, especially in those industries which bring the impact to economy, environment, and society both positive and negative. The chosen example of the O&G offshore supply industry seems relevant for this issue. However, the frame of reference has outlined the lack of agreement on what the concept itself means. Every business player identifies it differently, more often with regard to own developed business strategy and the contextual peculiarities of operations. It has appeared that usually business definitions are quite far from the ideas of the well-known Brundtland definition where the dimensions of environmental integrity, economic prosperity, and social equity are constituted. The theoretical definition is too abstract, idealistic and wide in comparison to the understanding within a practical case, because it lacks a clear direction and does not provide enough information on the spatial and temporal scales. But, in general, it seems to us that the hundreds of ‘sustainability’ explanations have been proposed the last decades, but, however, we always start from the Brundtland definition.

We have specified that the Norwegian offshore supply companies, being a huge part of the Norwegian O&G industry, are considered one of the most important contributors into the national economic development. On the other hand, the accomplishment of engineering projects in the open sea (especially, the subsea dimension) is always accompanied by the impact on the marine environment and the involved human resources. In this case, the way of how the ‘sustainability’ concept is understood in this specific context reflects its relation to the questions of sustainability disclosures production.

In order to explore the concept’s meaning better we have conducted the survey where one of the assessment criterions was the general understanding of sustainable development. The scope has

been related to all the NSA members, the particular attention has been paid to the offshore supply companies. So, what we have gained? The concept is operationalized in the different ways; everyone commits individually to ‘sustainability’ and the general understanding varies from company to company depending on the cluster context.

For example, if we take the case study of Acergy, the ‘sustainable development’ concept is understood in the specific manner, at least not in terms of the Brundtland definition or the general business definition. ‘Sustainability’ in Acergy refers to the issues of project engineering in the harsh marine environment with an accent on rationality and safety. These points are stated as the main pillars in the project accomplishment. In the broad sense ‘sustainable development’ is comprehended through the lens of corporate HSE concept. Corporate HSE strategy expects responsible leadership, following the safety vision, an incident-free workplace. It aims to reach the attainable goal of ‘zero’ employees’ hurt, no damage to the environment and no damage to property, vessels or equipment. So, the core idea bases more on the ‘internal sustainability’ which comprises rational and safe usage of the main assets.

The concept’s comprehension in Technip is quite similar, but wider by the external dimension. The core ideas of sustainable development in the company are reflected in “no compromise when it comes to the safety of employees, commitment to local communities, development of tomorrow’s energy resources and to better environmental protection”. The main difference is that Technip puts in the definition the socioeconomic target, what is not so clearly stated in Acergy. According to the definition of ‘sustainability’ Technip incorporates in its strategy all three pillars – socioeconomic (the development and contribution into local communities), social (employees’ health and safety), environmental (mitigation of GHG emissions, environmental protection, the development of new energy resources). So, the main differences lie in the rhetoric. But what is done in the real action is a question.

The way of the sustainability definition does not guarantee being a sustainable company. Here these two O&G offshore suppliers use the topic of definition to frame the ‘sustainability’ issue. The logic bases on the following idea: “All enterprises that strive to decrease GHG emissions and other discharges and maintain safety of operations are sustainable”. Acergy and Technip strive to cut emissions and work in a safe manner. The conclusion is that Acergy and Technip are sustainable companies. However, the issue can easily turn into a question of scale: how much of a reduction and quality of safety are needed to earn the label ‘sustainable’? The discussion on the HSE aspects within the O&G offshore supply operations leads to a focus on technology. Our empirical findings in the case studies clearly indicate that the HSE issues and the relevant



disclosures dominate within the Norwegian offshore supply companies and the NSA members, in general.

On the other hand sustainability means the long-term management for the Norwegian O&G offshore supply companies. From the position of socioeconomic pillar managers of these companies make an assumption that the O&G operations are sustainable now as it is probable that the needs of future generations will not include the consumption of hydrocarbons due the investments into renewables. By the way, both companies accomplish the investments programs into innovations and new sources of energy. They argue that it is more likely that new forms of energy will dominate in the future and this means that O&G business is sustainable 'at a larger scale'. In the vision of environmental technologies there is an idea that O&G offshore industry is sustainable in a short term (e.g. now) because it will find new resources to replace currently used non-renewables. However, no further explanation was given for how this could be achieved.

Finally, our discussions on the 'sustainability' understanding in the project engineering context may be reflected in the following figure with regard to the interrelation of accounting practice and its context:

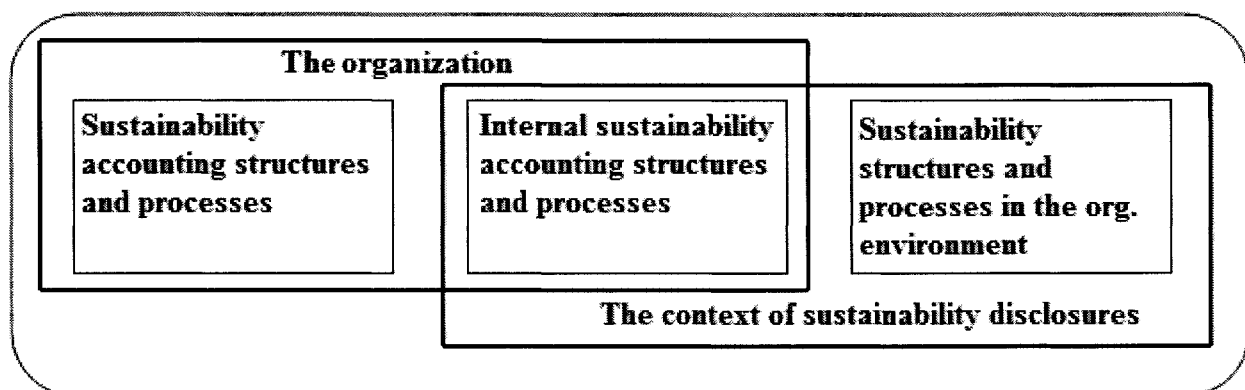


Figure 27. Sustainability accounting and its context (Adapted from Mellemvik et al., 1988)

According to this figure the understanding of sustainability in the Norwegian offshore supply industry is influenced by two contextual dimensions: external and internal. We consider the external context as quite weak due to the lack of ideological learning from the sustainability accounting environment and the absence of general agreement on the understanding of the Brundtland definition. The internal engineering context seems very strong because companies comply with the issues of sustainable development in their own way. Sustainability accounting in action makes the main accent on the HSE accounting to control and improve the value chain in terms of sustainability while accomplishing the offshore projects.

## Chapter 6. Conclusions

In this final chapter the questions asked in the introductory part are answered in details based on the findings and the previous discussion.

In our master thesis we have made an attempt to explore the phenomenon of ‘sustainability’ concept and sustainability disclosures practices within the particular country - Norway and the particular sphere of business – the O&G offshore supply companies. To be more specific we have outlined the following problem statement for the research – “How, why and to what extent are sustainability disclosures produced in the Norwegian O&G offshore supply companies?” It means that the departure point of the research problem has highlighted the reasons (why?), mechanisms (how?) and the scope (to what extent?) of “sustainability disclosures” production within the defined context. In our paper we have specified the production of sustainability disclosures through the process of institutionalization. The relevant theoretical base has been found in the model of Bergevärn which concerns the institutionalization process that explains the system of norms and actions within the institutional environment and the interrelation between them. We have interpreted the pattern within the context of sustainability reporting: the environment of sustainability data disclosing, norm level (standards and guideline) and action level (reporting practices within the O&G offshore supply cluster). At first, we saw important to identify what the concept of sustainability does mean in general and from the position of business.

### 6.1 What does sustainability mean?

In the theoretical framework as well as in the case studies we have identified a wide range of different assumptions concerning the understanding of ‘sustainability’ and its role for business, especially, for oil and gas industry. The general accepted Brundtland definition of 1987 is comprehended by businessmen and engineers with clearly visible problems: in terms of business it sounds too theoretical, abstract and ambiguous. Its implementation in practice seems quite impossible due to this. Two conducted case studies of Acergy and Technip confirm this idea, as some our interviewees were not so familiar with the general accepted concept. They limited its understanding to the strategic targets of health, safety, and environmental indicators within the context of project engineering.

The business concept of sustainability seems to us much more practical than the general definition. The advantage of ‘business’ understanding of sustainability reflects in the capture of

the Brundtland definition and the recognition of economic development that meets the needs of an enterprise and its affected stakeholders. The dependency of business on natural and human capital is highlighted as well, in addition to financial and physical resources. As for the project engineering context the analysis has shown that understanding of sustainability within the offshore supply cluster, particularly, has been influenced by the historical tendency of concept's development, though the operationalization of the concept differs. Every offshore supply company understands sustainability in its own manner and discloses data according to the objectives of strategic management.

## **6.2 What are the rationales of sustainability disclosures?**

Despite the O&G industry is one of the most lucrative Norwegian business sectors and its considerable contribution into the national economic development, it extremely influences on the external environment, society and socioeconomic issues. That is why the problem of sustainability disclosures is broadly discussed on the highest levels of the Norwegian authorities. The O&G offshore supply sector is, certainly, a large and very important part of O&G industry, and it has its specific peculiarities when we speak about its impact on what is included in the sustainable development. The impact is on the environment and society exists. But, comparing this business with on-shore operations, offshore supply routines are executed in the open sea. In this case the general public has few encounters to sustainability data of offshore sub-contractors. Also their maritime operations have traditionally maintained a low media profile, and when they occasionally draw some attention, it is usually due to some negative event, i.e. an oil spill. This has contributed to a growing concern within the shipowners as to what image they project to the public. According to this a set of rationales has been worked out to explain why offshore companies do produce sustainability disclosures and whom they are accountable to.

So, having analyzed different types of sustainability disclosures published and interpreted the interviews with the representatives of the offshore supply cluster, we have defined the most crucial stakeholder groups. They are divided into two groups: primary (Norwegian governmental authorities, clients, and employees) and secondary (suppliers and NGOs). Every group has a set of expectations concerning the data on sustainability issues.

The main and the most crucial reason for disclosing data on sustainability is the pressure of the Norwegian government. At first, the governmental requirements include the mandatory reporting, especially, on the indicators related to health, safety (accidents, injuries, lost time etc.) and environment (GHG emissions, oil spills, other, discharges etc.). By the second reason, the

environmental reports are important as they are related to the questions of the environmental taxation system, so the “polluter pays” principle. This is what concerns the disclosing data on the environmental impact. The governmental expectations of health and safety and socioeconomic (CSR) reporting are satisfied by business entities through the reports’ production with regard to the requirements of the Norwegian Accounting Act.

The next important rationale to produce such disclosures is the accountability to clients before and during the accomplishment of any offshore construction project. Especially, clients are interested in the data on HSE. First, it is because the governmental pressure to O&G extraction companies in order to make all the supply chain sustainable. Then, clients need to control the process of project accomplishment and the reports on sustainability are important as they are the part of risk management. So, clients are interested in the positive HSE statistics to assess the contractor and identify how it is cost-effective in terms of environmental and safety expenses.

One of the primary rationales for sustainability disclosures is responsibility to employees, especially, to those who work in the offshore and are under the sufficient risk. The reporting on sustainability (e.g. HSE) is considered important. The offshore supply companies like Acergy and Technip have such data systems which provide all employees with the access to relevant sustainability data to ensure them in the safety and security during the projects.

Certainly, the sustainability disclosures production is caused by the world tendency if we have a look at the last decades. More and more companies are starting report on these issues in order to maintain the corporate image and not to lose competitive advantage on the market. However, this rationale seems to us vague and ambiguous in the context of the Norwegian O&G offshore supply. Some companies like Technip have been producing sustainability reports for several years using the appropriate international standards, but others like Acergy do this practice internally limiting disclosures to the most important stakeholders. However, we cannot state they are less competitive. Though the understanding of the concept takes place but the incorporation of standardized sustainability reporting is under the question.

### **6.3 To what extent sustainability disclosures are produced in the defined context?**

In order to evaluate the extent of sustainability disclosures we have conducted a survey which helped to identify the distribution of standards and guidelines for sustainability (norm system). So, we have come to the following conclusions concerning the extent:

- The framework for sustainability disclosures is represented by a wide scope of standards and guidelines;
- All the companies in the O&G offshore supply cluster follow the strict regulatory framework according to international and national legislation for reporting. The environmental reporting dimension is considered the most crucial in terms of sustainability disclosures;
- The mandatory disclosures according to the Norwegian Accounting Act are shown only by 28% out of 106 companies from the NSA, though, following its requirements is considered mandatory for all the Norwegian registered companies; as for the Norwegian O&G offshore supply companies only 17 out of 40 report on its accounts. Nevertheless, all companies produce compulsory reports to the state statistic center basing on the Act;
- The international voluntary standards settings (GRI) are applied by a minority of companies: 6 and 4 per cent respectively;
- The dominating frameworks are the industrial NORSOK standard as its application disclosed internally by all the companies engaged in the offshore construction business, however, the reports of sustainability data are available only to the triangle 'client – contractor – governmental authorities'. The indicators included in the industrial standard are communicated through the 'client - supplier' database system 'Achilles'. Also the procedural ISO and OHSAS management systems are widely used (79% of the NSA members, all the offshore supply companies integrate the ISO certification verified by DNV). However, each company decides itself of what and how to report.

#### **6.4 What are the mechanisms of 'sustainability disclosures' production?**

Finalizing our research, the important question of mechanisms should be specified after we have concluded on the issues of rationales and norm system of sustainability disclosures within the Norwegian O&G offshore supply companies.

In general, the mechanism of communicating the sustainability data with engaged stakeholders is implemented through disclosure via the set of regulative (mandatory) and normative (voluntary) frameworks. The disclosure is represented the following methods: publishing data directly on web-pages in a free form (general understanding of sustainable development, applied management systems, codes of conduct etc.), generating joint reports (a part of annual reports) or producing separate reporting (sustainability, environmental, HSE, CSR reports etc.). The most

crucial regulative mechanism is accomplished through the compliance to the Norwegian Accounting Act. It requires incorporating the data on specific accounts of external environment, working environment, and gender equity in the annual report named board of directors' report. If data is not disclosed in the annual report, in all cases it must be transferred to Bronnøysund Statistic Centre where it becomes available for users.

Another mechanism for sustainability disclosures is represented by the industrial standard NORSOK in combination with the internal procedural systems that are responsible to control and report on sustainability indicators. This standard provides a basis for HSE data relations between a Client and a Contractor. The broader system to support sustainability data disclosures inside the O&G industry is the 'Achilles' database system (qualification and assessment of all the O&G suppliers). As we have revealed through the case studies of Acergy and Technip, it is a general practice to operate such systems when a company engaged in a number of projects and there is a constant need (for employees, risk management department as well as for clients and authorities) to report on what is going on with each project. But speaking about the scope of disclosures in frame of NORSOK standard, it is determined by clients' needs, so the requirements vary from project to project. Another disadvantage of this mechanism is that it refers to HSE indicators, but it is only a part of sustainability agenda for the O&G industry. Also, the communication of disclosure results does not relate to all the affected stakeholders, but only clients and the government.

The use of the ISO procedural systems are broadly represented in the Norwegian offshore supply companies. When it comes to the disclosure process, they do not specify of what to report and how to do it. These mechanisms explain what to register and measure in frames of particular technological stage of an operation. The communication aspect for the external disclosures is not specified in these procedural standards, which dominate in the industry to reduce uncertainties internally to cope with the sustainability issues.

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**Appendix 1. Assessment of sustainability disclosures in the NSA companies**

Name of Company	Activity cluster	Joint SD report	Separate SD report	General SD			MS			Codes of Conduct			SCM		
				Econ	Env	Soc	Econ	Env	Soc	Econ	Env	Soc	Econ	Env	Soc
Color Line AS	cruise passenger transportation	-	-	0	0	1	0	1	0	0	0	1	0	0	0
Det Stavangerske Dampskibsselskab (DSD) ASA	cruise passenger transportation	-	-	0	0	1	1	1	1	1	0	1	0	0	0
Fjord Line AS	cruise passenger transportation	-	-	0	0	0	0	0	0	0	0	0	0	0	0
RC Consultants AS	engineering consultancy	-	-	0	0	0	0	0	0	0	0	0	0	0	0
A/S J. Ludwig Mowinckels Rederi	maritime logistics	-	-	0	1	1	0	1	1	0	0	0	0	0	0
A/S Uglands Rederi	maritime logistics	-	-	2	1	2	2	1	2	1	1	1	1	1	1
Utkilen AS	maritime logistics	-	-	0	0	1	0	0	1	0	0	1	0	0	0
ASP Singa Ship Management AS	maritime logistics	-	-	1	1	1	1	1	1	1	1	1	0	0	0
Belships ASA	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
BW Gas ASA	maritime logistics	-	-	1	0	0	1	0	0	1	0	0	0	0	0
Bergshav Management AS	maritime logistics	-	-	0	1	1	0	1	1	0	0	0	0	0	0
Camillo Eitzen & Co AS	maritime logistics	-	-	1	0	0	1	0	0	1	1	1	0	0	0
Continental Ship Management AS	maritime logistics	-	-	0	0	0	0	1	1	0	0	0	0	0	0

DFDS Lys-Line AS	maritime logistics	-	-	0	1	1	0	1	1	0	1	0	0	0	0
Eidsiva Rederi ASA	maritime logistics	-	+	1	1	1	1	1	1	0	0	0	0	0	0
Erik Thun AB (publ)	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Fred. Olsen & Co	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Geoshipping AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Green Management AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Grieg Shipping AS	maritime logistics	-	+	3	3	3	2	3	3	1	1	1	1	1	1
Halfdan Ditlev-Simonsen & Co AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Hav Ship Management AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Ivarans Rederi ASA	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Jahre Dahl Bergesen AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Jo Tankers AS	maritime logistics	-	-	1	1	1	1	1	1	0	0	0	0	0	0
Knutsen OAS Shipping AS	maritime logistics	-	-	0	1	0	0	1	0	0	0	0	0	0	0
Kopervik Shipping AS	maritime logistics	-	-	1	1	1	0	1	1	0	1	0	0	0	0
Kr. G. Jebsen Skipsrederi A/S	maritime logistics	-	-	0	0	0	0	1	1	0	0	0	0	0	0
Larvik Shipping AS	maritime logistics	-	-	0	0	0	0	1	0	0	0	0	0	0	0
Leif Høegh & Co AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Lorentzens Skibs AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Nordic American Tanker Shipping Ltd.	maritime logistics	-	-	0	1	1	0	0	0	0	0	0	0	0	0



North Sea Shipping AS	maritime logistics	-	-	0	0	1	0	0	1	0	0	0	0	0	0
O.T. Tønnevoold	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Odfjell ASA	maritime logistics	-	-	3	4	4	2	3	3	3	3	4	1	0	0
Olympic Shipping A.S.	maritime logistics	-	-	0	0	1	0	2	0	0	0	0	0	0	0
Rederiet Stenersen AS	maritime logistics	-	-	0	1	1	0	0	0	0	0	0	0	0	0
Rieber Shipping AS	maritime logistics	-	-	0	1	1	0	0	0	0	0	0	0	0	0
Rolf Wagle A/S	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Saga Forest Carriers Int'l AS	maritime logistics	-	-	0	0	1	0	0	0	0	0	0	0	0	0
Sea-Cargo AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Seatrans DA	maritime logistics	-	-	0	1	1	0	0	0	0	0	0	0	0	0
Solvang ASA	maritime logistics	+	-	1	3	4	2	4	4	0	0	0	0	0	0
Spar Shipping AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Star Shipping AS	maritime logistics	-	-	0	1	0	0	2	1	0	0	0	0	0	0
Stolt-Nielsen Transportation Group B.V.	maritime logistics	-	-	3	4	4	2	4	4	3	4	4	0	0	0
TESMA Holding AS	maritime logistics	-	-	0	0	0	0	3	1	0	0	0	0	0	0
The Torvald Klaveness Group	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Tschudi Shipping Company AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
United European Car Carriers Norway AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Viken Shipping AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0

Viking Supply Ships AS	maritime logistics	-	-	0	1	1	0	0	0	0	0	0	0	0	0
Wallenius Wilhelmsen Lines	maritime logistics	-	+	3	4	4	4	4	4	3	4	4	3	4	3
Waterfront Shipping AS	maritime logistics	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Western Bulk Carriers Holding ASA	maritime logistics	-	-	0	1	0	0	0	0	0	0	0	0	0	0
Wilh. Wilhelmsen ASA	maritime logistics	-	+	3	4	4	4	4	4	3	4	4	3	2	2
Wilson Management AS	maritime logistics	-	-	1	1	1	0	0	0	0	0	0	0	0	0
A/S Norske Shell	O&G downstream	-	+	4	4	4	4	4	4	3	4	4	3	3	3
Maersk Contractors Norge AS	offshore drilling	-	-	0	1	1	0	1	1	0	1	1	0	0	0
Ocean Rig AS	offshore drilling	+	-	1	1	1	1	3	2	3	2	3	0	0	0
Odfjell Offshore	offshore drilling	-	-	0	2	1	3	4	4	0	0	0	0	0	0
Petrolia Drilling ASA	offshore drilling	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Saipem SpA Norwegian Branch	offshore drilling	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Seadrill	offshore drilling	-	-	0	2	1	0	1	1	0	0	0	0	0	0
Stena Drilling Ltd	offshore drilling	-	-	0	1	2	0	1	2	0	0	0	0	0	0
Stolt Sea Farm AS	offshore drilling	-	-	2	2	1	1	2	1	0	0	0	0	0	0
Transocean Offshore (North Sea) Ltd. NUF	offshore drilling	-	-	1	2	2	2	3	3	2	0	0	2	0	0
Blystad Shipholding Inc.	offshore shipping service	-	-	0	2	2	0	2	2	0	2	2	0	0	0
Bourbon Offshore Norway AS	offshore shipping service	-	-	0	1	1	0	1	1	0	0	0	0	0	0

BW Offshore	offshore shipping service	-	-	1	1	1	1	1	1	1	0	0	0	0	0
DOF Management AS	offshore shipping service	-	-	1	2	3	1	2	2	1	1	1	0	0	0
Farstad Shipping ASA	offshore shipping service	-	-	3	1	1	3	1	1	2	0	0	0	0	0
G.C. Rieber	offshore shipping service	-	-	1	1	1	0	1	1	0	0	0	0	0	0
Gulf Offshore Norge AS	offshore shipping service	-	-	0	1	1	0	1	1	0	0	0	0	0	0
Havila Shipping AS	offshore shipping service	+	-	3	2	2	3	3	1	1	1	1	0	0	0
I.M. Skaugen ASA	offshore shipping service	+	-	1	2	2	2	2	2	1	1	1	0	0	0
Island Offshore Management AS	offshore shipping service	-	-	1	1	1	0	1	1	0	0	0	0	0	0
Iver Ships AS	offshore shipping service	-	-	0	0	0	0	0	0	0	0	0	0	0	0
OSM Norway AS	offshore shipping service	-	-	0	1	1	0	1	1	0	0	0	0	0	0
Petroleum Geo-Services ASA	offshore shipping service	-	-	0	1	1	0	3	2	3	3	4	0	0	0
Prosafe Offshore Norge AS	offshore shipping service	+	-	4	4	4	2	4	4	4	4	4	2	3	4
Sartor Shipping AS	offshore shipping service	-	-	0	1	1	0	0	0	0	0	0	0	0	0

Shipman AS	offshore shipping service	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Simon Møkster Shipping AS	offshore shipping service	+	-	1	3	3	1	4	3	0	0	0	0	0	0
Solstad Shipping AS	offshore shipping service	+	-	0	2	2	1	3	2	0	0	0	0	0	0
Teekay Norway AS	offshore shipping service	-	-	0	0	0	0	0	0	0	1	1	0	0	0
Uksnøy & Co. A/S	offshore shipping service	-	-	0	1	0	0	1	1	2	1	1	0	0	0
Volstad Maritime AS	offshore shipping service	-	-	0	0	0	0	2	1	0	0	0	0	1	1
Østensjø Rederi AS	offshore shipping service	-	-	0	2	1	1	3	1	0	0	0	0	0	0
Borgestad ASA	shipping management and investment	-	-	1	0	0	0	0	0	0	0	0	0	0	0
Grieg International AS	shipping management and investment	-	-	1	1	1	1	1	1	1	1	1	0	0	0
Hagland Shipping AS	shipping management and investment	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Havinvest AS	shipping management and investment	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Hesnes Shipholding AS	shipping management and investment	-	-	0	0	0	0	0	0	0	0	0	0	0	0

TFDS Offshore AS	shipping management and investment	-	-	0	0	0	0	1	1	0	0	0	0	0	0
V.Ships Norway AS	shipping management and investment	-	+	2	4	4	1	4	3	0	0	0	0	0	0
Acergy Norge AS	subsea offshore service	-	-	1	1	1	1	1	1	1	0	0	0	0	0
Boskalis Offshore AS	subsea offshore service	-	-	2	1	1	1	0	0	0	0	0	0	0	0
Eidesvik Offshore ASA	subsea offshore service	+	-	2	3	3	2	3	3	0	0	0	0	0	0
Subsea 7	subsea offshore service	-	-	1	2	3	0	1	1	2	1	1	0	0	0
Tananger Offshore AS	subsea offshore service	-	-	0	1	1	1	1	1	0	0	0	0	0	0
Taubåtkompaniet Management A/S	subsea offshore service	-	-	0	0	1	1	3	3	0	0	0	1	1	0
Technip Norge AS	subsea offshore service	-	+	2	4	4	3	4	4	1	2	2	1	3	2
Trico Supply ASA	subsea offshore service	-	-	1	3	2	1	3	1	2	2	1	0	0	0
Dyvi AS	vessel engineering and construction	-	-	0	0	0	0	0	0	0	0	0	0	0	0
Nordic Maritime Services AS	vessel engineering and construction	-	-	0	1	1	0	1	1	0	0	0	0	0	0

**Appendix 2. Distribution of ‘sustainability disclosures’ standards in the NSA companies**

Name of Company	Activity cluster	Regulative standards				Normative standards				
		IMO Convention 73/78	EU/EEC directives	NAA	NORSOK	ISO	OHSAS	SA	UN GC	GRI
Color Line AS	cruise passenger transportation	+	+	-	-	+	-	-	-	-
Det Stavangerske Dampskibsselskab (DSD) ASA	cruise passenger transportation	+	+	-	-	+	-	-	-	-
Fjord Line AS	cruise passenger transportation	+	+	-	-	-	-	-	-	-
RC Consultants AS	engineering consultancy	+	+	-	-	-	-	-	-	-
A/S J. Ludwig Mowinckels Rederi	maritime logistics	+	+	-	-	-	-	-	-	-
A/S Uglands Rederi	maritime logistics	+	+	-	-	+	-	-	-	-
Utkilen AS	maritime logistics	+	+	-	-	+	-	-	-	-
ASP Singa Ship Management AS	maritime logistics	+	+	-	-	+	-	-	-	-
Belships ASA	maritime logistics	+	+	+	-	+	-	-	-	-
BW Gas ASA	maritime logistics	+	+	+	-	+	+	-	-	-

Bergshav Management AS	maritime logistics	+	+	-	-	+	-	-	-	-
Camillo Eitzen & Co AS	maritime logistics	+	+	-	-	-	-	-	-	-
Continental Ship Management AS	maritime logistics	+	+	-	-	+	-	-	-	-
DFDS Lys-Line AS	maritime logistics	+	+	-	-	+	-	-	-	-
Eidsiva Rederi ASA	maritime logistics	+	+	+	-	+	-	+	+	-
Erik Thun AB (publ)	maritime logistics	+	+	-	-	-	-	-	-	-
Fred. Olsen & Co	maritime logistics	+	+	-	-	-	-	-	-	-
Geoshipping AS	maritime logistics	+	+	-	-	-	-	-	-	-
Green Management AS	maritime logistics	+	+	+	-	+	-	-	-	-
Grieg Shipping AS	maritime logistics	+	+	+	-	+	+	-	-	+
Halfdan Ditlev-Simonsen & Co AS	maritime logistics	+	+	-	-	+	-	-	-	-
Hav Ship Management AS	maritime logistics	+	+	-	-	-	-	-	-	-
Ivarans Rederi ASA	maritime logistics	+	+	-	-	-	-	-	-	-
Jahre Dahl Bergesen AS	maritime logistics	+	+	-	-	-	-	-	-	-
Jo Tankers AS	maritime log-s	+	+	-	-	+	-	-	-	-

Knutsen OAS Shipping AS	maritime logistics	+	+	-	-	+	-	-	-	-
Kopervik Shipping AS	maritime logistics	+	+	-	-	+	-	-	-	-
Kr. G. Jebsen Skipsrederi A/S	maritime logistics	+	+	-	-	+	-	-	-	-
Larvik Shipping AS	maritime logistics	+	+	-	-	+	-	-	-	-
Leif Høegh & Co AS	maritime logistics	+	+	-	-	-	-	-	-	-
Lorentzens Skibs AS	maritime logistics	+	+	-	-	-	-	-	-	-
Nordic American Tanker Shipping Ltd.	maritime logistics	+	+	-	-	-	-	-	-	-
North Sea Shipping AS	maritime logistics	+	+	-	-	+	-	-	-	-
O.T. Tønnevoll	maritime logistics	+	+	-	-	-	-	-	-	-
Odfjell ASA	maritime logistics	+	+	+	-	+	-	-	-	-
Olympic Shipping A.S.	maritime logistics	+	+	-	-	+	-	-	-	-
Rederiet Stenersen AS	maritime logistics	+	+	-	-	-	-	-	-	-
Rieber Shipping AS	maritime logistics	+	+	+	-	+	-	-	-	-
Rolf Wagle A/S	maritime logistics	+	+	-	-	-	-	-	-	-



Saga Forest Carriers Int'l AS	maritime logistics	+	+	-	-	-	-	-	-	-
Sea-Cargo AS	maritime logistics	+	+	-	-	-	-	-	-	-
Seatrans DA	maritime logistics	+	+	-	-	-	-	-	-	-
Solvang ASA	maritime logistics	+	+	+	-	+	-	-	-	-
Spar Shipping AS	maritime logistics	+	+	-	-	-	-	-	-	-
Star Shipping AS	maritime logistics	+	+	+	-	+	+	-	-	+
Stolt-Nielsen Transportation Group B.V.	maritime logistics	+	+	-	-	+	-	-	-	-
TESMA Holding AS	maritime logistics	+	+	-	-	+	-	-	-	-
The Torvald Klaveness Group	maritime logistics	+	+	-	-	-	-	-	-	-
Tschudi Shipping Company AS	maritime logistics	+	+	-	-	-	-	-	-	-
United European Car Carriers Norway AS	maritime logistics	+	+	-	-	-	-	-	-	-
Viken Shipping AS	maritime logistics	+	+	-	-	-	-	-	-	-
Viking Supply Ships AS	maritime logistics	+	+	-	-	-	-	-	-	-

Wallenius Wilhelmsen Lines	maritime logistics	+	+	+	-	+	+	-	+	+
Waterfront Shipping AS	maritime logistics	+	+	-	-	-	-	-	-	-
Western Bulk Carriers Holding ASA	maritime logistics	+	+	-	-	-	-	-	-	-
Wilh. Wilhelmsen ASA	maritime logistics	+	+	+	-	+	+	-	-	-
Wilson Management AS	maritime logistics	+	+	+	-	+	-	-	-	-
A/S Norske Shell	O&G downstream	+	+	+	+	+	+	-	+	+
Maersk Contractors Norge AS	offshore drilling	+	+	-	+	+	-	-	-	-
Ocean Rig AS	offshore drilling	+	+	-	+	+	-	-	-	-
Odfjell Offshore	offshore drilling	+	+	-	+	+	+	-	-	-
Petrolia Drilling ASA	offshore drilling	+	+	-	+	-	-	-	-	-
Saipem SpA Norwegian Branch	offshore drilling	+	+	+	+	+	+	-	-	-
Seadrill	offshore drilling	+	+	+	+	+	-	-	-	-
Stena Drilling Ltd	offshore drilling	+	+	-	+	-	-	-	-	-
Stolt Sea Farm AS	offshore	+	+	-	+	+	-	-	-	-

	drilling									
Transocean Offshore (North Sea) Ltd. NUF	offshore drilling	+	+	-	+	+	-	-	-	-
Blystad Shipholding Inc.	offshore shipping service	+	+	-	+	-	-	-	-	-
Bourbon Offshore Norway AS	offshore shipping service	+	+	-	+	-	-	-	-	-
BW Offshore	offshore shipping service	+	+	+	+	+	+	-	-	-
DOF Management AS	offshore shipping service	+	+	+	+	+	-	-	-	-
Farstad Shipping ASA	offshore shipping service	+	+	+	+	+	-	-	-	-
G.C. Rieber	offshore shipping service	+	+	+	-	+	-	-	-	-
Gulf Offshore Norge AS	offshore shipping service	+	+	-	+	+	-	-	-	-
Havila Shipping AS	offshore shipping service	+	+	+	+	+	-	-	-	-
I.M. Skaugen ASA	offshore shipping service	+	+	-	+	-	-	-	-	-

Island Offshore Management AS	offshore shipping service	+	+	-	+	-	-	-	-	-
Iver Ships AS	offshore shipping service	+	+	-	+	-	-	-	-	-
OSM Norway AS	offshore shipping service	+	+	-	+	-	-	-	-	-
Petroleum Geo-Services ASA	offshore shipping service	+	+	+	+	+	+	-	-	-
Prosafe Offshore Norge AS	offshore shipping service	+	+	+	+	+	-	-	-	-
Sartor Shipping AS	offshore shipping service	+	+	-	+	-	-	-	-	-
Shipman AS	offshore shipping service	+	+	-	+	-	-	-	-	-
Simon Møkster Shipping AS	offshore shipping service	+	+	+	+	+	-	-	-	-
Solstad Shipping AS	offshore shipping service	+	+	+	+	+	-	-	-	-
Teekay Norway AS	offshore shipping service	+	+	+	+	+	-	-	-	-

Uksnøy & Co. A/S	offshore shipping service	+	+	-	+	-	-	-	-	-
Volstad Maritime AS	offshore shipping service	+	+	-	+	+	-	-	-	-
Østensjø Rederi AS	offshore shipping service	+	+	-	+	-	-	-	-	-
Borgestad ASA	shipping management and investment	+	+	+	-	-	-	-	-	-
Grieg International AS	shipping m-t and investment	+	+	+	-	+	+	-	-	+
Hagland Shipping AS	shipping m-t and investment	+	+	-	-	-	-	-	-	-
Havinvest AS	shipping m-t and investment	+	+	-	-	-	-	-	-	-
Hesnes Shipholding AS	shipping m-t and investment	+	+	-	-	-	-	-	-	-
TFDS Offshore AS	shipping m-t and investment	+	+	-	-	-	-	-	-	-
V.Ships Norway AS	shipping m-t and investment	+	+	+	-	+	+	-	-	-
Acergy Norge AS	subsea offshore service	+	+	-	+	+	+	-	-	-

Boskalis Offshore AS	subsea offshore service	+	+	-	+	-	-	-	-	-
Eidesvik Offshore ASA	subsea offshore service	+	+	+	+	+	-	-	-	-
Subsea 7	subsea offshore service	+	+	-	+	+	+	-	-	-
Tananger Offshore AS	subsea offshore service	+	+	-	+	-	-	-	-	-
Taubåtkompaniet Management A/S	subsea offshore service	+	+	-	+	-	-	-	-	-
Technip Norge AS	subsea offshore service	+	+	+	+	+	+	-	+	+
Trico Supply ASA	subsea offshore service	+	+	-	+	+	-	-	-	-
Dyvi AS	vessel engineering and construction	+	+	-	+	-	-	-	-	-
Nordic Maritime Services AS	vessel engineering and construction	+	+	-	+	+	-	-	-	-
<b>Total amount</b>		<b>106</b>	<b>106</b>	<b>30</b>	<b>42</b>	<b>58</b>	<b>15</b>	<b>1</b>	<b>4</b>	<b>6</b>

### Appendix 3. HSE reporting scheme of NORSOK industrial standard

The report shall include the following points:

- Status of the activity plan in the HSE program
- Description of high-risk events/conditions and other relevant remarks to the results
- Other relevant information

Results:

	Total		Project loc. 1		Project loc. 2		Project loc. n	
	Period	Acc. total	Period	Acc. total	Period	Acc. total	Period	Acc. total
Fatality	0	0	0	0	0	0	0	0
Serious injury with possible disability	0	0	0	0	0	0	0	0
Serious injury	0	0	0	0	0	0	0	0
Medical treatment	0	0	0	0	0	0	0	0
Harm to the external environment	0	0	0	0	0	0	0	0
Material damage	0	0	0	0	0	0	0	0
High-risk events/conditions	0	0	0	0	0	0	0	0
Lost-time injuries	0	0	0	0	0	0	0	0
Injury resulting in alternative work	0	0	0	0	0	0	0	0
Closed/completed measures	0	0	0	0	0	0	0	0
Ongoing measures	0	0	0	0	0	0	0	0
Overdue measures	0	0	0	0	0	0	0	0
Suspected incidences of work-related illness	0	0	0	0	0	0	0	0
Sickness absence in % *	0	0	0	0	0	0	0	0
Total hours worked	0	0	0	0	0	0	0	0
Defined values **	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

\*) Sickness absence is reported for the period or for the quarter, and the last 12 months. Sickness absence can be reported one period in arrears. Sickness absence can be reported in terms of the project's activities or for the Company overall. Everything that is reported must be stated in the report.

\*\*) Defined values in the HSE program. Based on the information above, the different parties in the project can define and report relevant values.

Statistics can be extracted and annexed to the report as a separate attachment. The format above is only an example, but the information stated therein shall be reported.

#### **Appendix 4. Interview guide**

1. Are you familiar with the concepts of 'sustainability'? How can it be operationalized in frames of the offshore supply industry in Norway?
2. What are the objectives of sustainability disclosures in frames of the company's activities?
3. Is sustainability disclosure an extremely necessary routine or it is possible to avoid this dimension?
4. Whom the company is accountable to within the issues of sustainability disclosures (clients, employees, government, other authorities, unions etc.)?
5. What kind of stakeholders' pressure does company challenge?
6. What are the information needs and expectations of the stakeholders?
7. How often does company need to disclose on the sustainability data?
8. How is the communication process organized to determine and satisfy stakeholders' demands?
9. Does your company participate in 'Achilles' database system for buyer-supplier communities in the oil & gas industry?
10. What are the internal management systems applied to produce sustainability disclosures?
11. What are the sustainability disclosures, which are legally required to report? What is reported on the voluntary basis? Are there any standards for sustainability disclosure in the offshore supply industry?
12. When the company gets a contract, what drives the client most of all: environmental friendliness or cost effectiveness of a project? What role does sustainability disclosure play here?
13. What is better in some cases of impact: just pay for the pollution or prevent possible incidents by pre-engineering solutions?