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Arctic petroleum's community impacts: Local perceptions from Hammerfest, Norway

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ABSTRACT

This article examines perceptions of petroleum developments in the Norwegian Arctic town of Hammerfest, especially in the context of Corporate Social Responsibility (CSR). Based on eighteen semi-structured interviews conducted in Hammerfest, the perceived effects of petroleum developments are identified and discussed. Local support for petroleum activity is high, particularly given the upsurge in job opportunities and economic ripple effects, both of which are considered essential to the community's survival. Environmental concerns and opposition to oil and gas are largely ascribed to external forces and do not feature as much in the locals' perceptions. While CSR is not part of the interviewees' vocabulary, the local population has clear expectations and views about petroleum companies' responsibilities to their community. In order to grasp the full picture of the Arctic petroleum debate, it is important to acknowledge that expectations, desires, and reality on the ground will sometimes diverge strongly from non-local considerations.

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1. Introduction

Over the past decade, the petroleum industry has increasingly focused on Arctic offshore oil and gas. As climate change melts the sea ice, vast hydrocarbon resources are assumed to become more available. Many participants in public and academic debates on Arctic petroleum have highlighted the negative impact of large-scale industrial developments [40,63,76], and the risks of developing oil and gas resources in a region often described as pristine and ecologically vulnerable [6,35,36,39]. Additionally, there is opposition to the development of oil and gas production in new areas, because it would increase fossil fuel emissions at a time where there is a need to mitigate climate change.

While some are against Arctic petroleum development altogether, others, focusing on the local impacts emphasize the potential for limiting the negative community impacts by implementing Corporate Social Responsibility (CSR) [18,45] implying that petroleum companies take on a significant responsibility for ensuring the social and environmental well-being of locations affected by petroleum exploration and extraction.

While there has been onshore hydrocarbon production in the Arctic since the 1960s, only two Arctic offshore fields of significant scale have come on stream so far: the Snow White natural gas field in Hammerfest, Norway and the Prirazlomnoye oil field in Russia. The Russian case, however, is organized in a way that gives minimal impact on the mainland. The municipality of Hammerfest in Northern Norway is therefore arguably so far the Arctic community most affected by Arctic offshore petroleum.

The "Snow White" (*Snøhvit*) field was the first discovery to be developed in the Barents Sea with production starting in 2007. The gas is transported by seabed pipeline to land in Hammerfest where it is transformed into liquefied natural gas (LNG) at the Milk Island plant, which is located only four kilometers away from the town center. With oil production due to start at the nearby Goliath (*Goliat*) field in 2016, Hammerfest offers a unique opportunity to study the community impacts of offshore petroleum developments in the Arctic. This article explores local perceptions of the impact of these two developments, examining the views of the residents of Hammerfest regarding what petroleum development has brought for them and what they expect from the petroleum companies. Data were obtained by means of 18 semi-structured in-depth interviews with representatives of Hammerfest's population, including members of the public, local politicians, and representatives from various sectors, such as petroleum, tourism, media and fishery,

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culture and education. The study endeavors to answer two main research questions.

1. How does the local community in a small Arctic town perceive the effects of large-scale petroleum development?
2. What responsibilities do representatives of the local community think petroleum companies should shoulder on behalf of society and the natural environment?

The qualitative, bottom-up approach adopted for this research responds to energy research gaps identified by Sovacool ([59]: 1) indicating a division between academic energy studies and the real-life perspectives considered important by many decision-makers. He argues that in energy research, many social and humanitarian disciplines have been treated as secondary to the "hard" or "objective" disciplines such as economics, statistics and engineering and encourages a broadening of the field with more interdisciplinary research that applies "human centered methods of data collection" including "research interviews, focus groups and field research" [59]: 25–26). This article hopes to fill part of this gap by presenting perceptions of reality and attitudes to local petroleum activities of the public and of representatives of government and industry, targeting a broad academic audience with an interest in energy research, but also of the role and responsibilities of businesses to society and community development.

The next section provides background to CSR and the Arctic followed by the methodology section. Results of the study are provided in Section 5, and analyzed, discussed, and contextualized in Section 6. The last section concludes and synthesizes the article's main findings.

2. CSR and the Arctic

Petroleum exploration and extraction in the Arctic have long been a controversial topic [26,53,55,75]. Views range from those of NGOs such as Greenpeace U.S.A. who want "to make the Arctic off limits to oil exploration and development"[1]—to those of groups actively calling for the opening up of the Arctic and other areas the oil and gas industry. This latter attitude is epitomized by a slogan devised by politicians in the U.S. Republican Party: "drill, baby, drill." Local communities and indigenous peoples are often caught in the middle, attracted by the opportunities created by petroleum and a share in the benefits, while wanting to control the adverse impacts. See, for example, with regard to Canada's Arctic [17,16], while interaction between the petroleum industry and local stakeholders in the Russian Arctic has been covered by e.g. Refs. [19,62,65].

Fundamentally, many Arctic communities, both indigenous and non-indigenous, often simply wish to be fully consulted and have a strong say in decisions regarding resource exploration and extraction [11,66] and to ensure that companies obtain a social license to operate [73] before starting petroleum activities. They see in CSR one possibility for achieving that balance [45,75]. While this paper reviews some of the literature on the topic, it would be beyond the paper's scope to review of every relevant contribution in every implicated discipline.

International interest in CSR has been growing in recent decades, although conceptions of what CSR means rhetorically and in practice vary widely (e.g. Refs. [3,10,48]). They include views such as "The Social Responsibility of Business Is to Increase Its Profits" [25] based on the theory that businesses in a functioning market economy automatically contribute to employment and general welfare by fulfilling their economic responsibility, hence no more responsibility is needed from business. This perspective has been widely criticized (e.g. Feldman, 2007). CSR is increasingly been understood in broader terms, encompassing topics such as disclosure [31] to recognizing the harm CSR can do [34]. Many arguments converge on the usefulness of integrating CSR into all business activities, benefiting businesses at various levels through balancing goodwill and economic logic, for example [7,8,54]. Some authors are not convinced, however. CSR cannot induce companies to take the responsibility that is actually needed to be effective, they say [14].

These views and differences are present in the literature on CSR in the petroleum sector and on placing CSR in wider contexts for the industry and affected populations. At times, the petroleum industry is touted as one of the CSR leaders in theory and in practice [27]. Elsewhere, the petroleum sector has been accused of greenwashing [68], particularly in failing to account for the wider consequences of exploring and extracting petroleum such as climate change and dependency on a finite resource. Many authors suggest that CSR investigations often underrepresent parties whose perspectives are not particularly corporate or business friendly ([58]: 95; [20]: 25). They have perhaps spurred the increase in studies of on-the-ground perspectives.

The wide literature on CSR and oil provides many lessons but also has displays many gaps in knowledge of the Arctic context. Authors exploring oil company employee attitudes [18] and government roles [4] indicate the importance of involving all players in investigating and enacting CSR. It is not just about company (or shareholders, e.g. Ref. [52]) and community decisions. Instead – and particularly given how much attention the Arctic garners—even those far removed physically from Arctic sites, such as employees in company headquarters or governments in the South, have roles, responsibilities, and interests regarding corporate actions for Arctic petroleum.

Because this article explores local perceptions of petroleum development also in the context of CSR, rather than subscribing to a specific definition of the term CSR, we acknowledge instead the diverse and often divergent views, using these differences as a basis for understanding the perspectives of residents of Hammerfest. And in terms of translation and cultural differences, imposing a specific CSR definition on interviewees from the beginning could produce leading questions. Instead, we seek to explore local views in Hammerfest, incorporating but not limited to dimensions of CSR.

Given this article's focus on Norway, it makes sense to review Norwegian attitudes to CSR. CSR has often been discussed in relation to Norwegian companies operating abroad [33,43], but is increasingly applied to corporate operations within Norway [29,44]. According to the Norwegian Parliament's white paper on CSR, CSR designates among other things "which responsibility businesses should take on for humans, society and environment that are affected by the business activity" ([67]: 7). This is more of a framework than a definition, perhaps illustrating the deliberate Norwegian approach of keeping the focus on policy relevance and practical implementation than entering into detailed definitional debates that are well covered in the scientific literature (e.g. Refs. [15,21]). Norwegians perceive themselves to be environmentally responsible (e.g. Refs. [50,51]), also with respect to petroleum exploration and extraction. Norway was the first country to ratify *ILO Convention 169 Indigenous and Tribal Peoples Convention, 1989* (neither Sweden nor Finland has done so) and the indigenous people (the Sámi) have significant land rights, especially in the northernmost county of Finnmark. These examples set the stage for understanding Norwegian views on Norway's oil and gas sector, including its operations in the Arctic.

Although petroleum is Norway's most important industry, certain political factions oppose exploration in some areas due to environmental concerns and conflicting interests with other

[1] http://petitions.moveon.org/greenpeace/sign/stop-shell-from-drilling-2.

industries, such as fisheries [42]. Additionally, Norway is often discussed as the model of a petro-state [12], extracting resources responsibly and investing the money in the country to develop a supportive social welfare state and plans for the post-petroleum future. Norway, for example, has the world's largest sovereign wealth fund, ostensibly to support pensions in perpetuity but also to protect the Norwegian economy from oil price fluctuations.

In terms of CSR's environmental dimensions, Norway is also seen as an environmentally friendly country, with both people and politics supporting progressive policies on climate change, environmental protection, and responsible resource extraction. The truth is more complicated, and Norway's environmentalism is rooted in conflict. For instance, Deep Ecology [47] emerged from protests over the construction of river dams and pollution from the pulp and paper industry in settlements in Norway's north. Environmental politics continues to be complicated. Orderud and Kelman [51] show the lack of convergence between Norwegian political parties and the traditional one-dimensional axis of the left as pro-environment and the right as anti-environment. Instead, the seven main political parties tend to position themselves in different places along two axes, left/right and green/non-green. Proportional representation in Parliament means that smaller parties can have a significant influence on national policy, sometimes preventing or sparking resource development.

In the Norwegian Arctic, an earlier case study of the Snow White project concluded that results of CSR initiatives in Hammerfest were imperfect insofar as "CSR attempts to curtail negative externalities, or capitalize on positive spin-offs, in a pre-emptive manner and cannot ultimately prepare a community or industry for inevitable mishaps" ([38]: 55). The largest winners of petroleum activities in Hammerfest are local business groups and suppliers interested in earning money and creating employment. Environmentalists and the Sámi population gain less. Klick ([38]: 55) points out that the outcomes in Hammerfest demonstrate community development without suggesting sustainability. The petroleum companies in Hammerfest, on the other hand, are conscious about using local suppliers; cultural and social events increase the attractiveness of the community; and there are opportunities for highly skilled workers. This is broadly seen as their contribution to CSR for Hammerfest.

3. Methodology

3.1. Case study research

The data presented here are based on a single-case study, something with both advantages and disadvantages. The main trade-off between qualitative and quantitative analyses is between breadth and depth: a case study provides opportunities to go into detail, hence increasing inner validity, while limiting the possibilities to generalize [2,28]. From an Arctic perspective, a comparative, multi-case approach would be useful to assess community effects of oil and gas. Offshore petroleum extraction in the Arctic, however, is still at an early stage and Hammerfest is, so far, a unique case and therefore worthy of investigation as a single-case study.

3.2. Interviews

Qualitative, semi-structured interviewing is the main method used in this research with two rounds of fieldwork lasting a week each, in 2013 and 2014, including attendance at the Barents Sea Conference 2014 in Hammerfest. Additionally, this article's main author was born in Hammerfest, she has family roots in the region and visited the community several times before the arrival of the petroleum industry. This local foundation may enable a deeper understanding of the context but it might also create local bias. The second author is not Norwegian; he provides an external view, identifying local biases, and bringing an ability to place the research in a broader context.

Table 1
Interviewees in Hammerfest.

#	Gender	Industry
1	Male	Tourism
2	Male	Supplier industry (worker)
3	Male	Supplier industry (worker)
4	Male	Student, previously politics
5	Male	Business cluster
6	Male	Competence building
7	Male	Indigenous livelihood
8	Male	Engineer
9	Male	Advisor, broad field of experience
10	Male	Oil company
11	Female	Local business development
12	Female	Culture
13	Female	Culture
14	Male	Fisheries
15	Female	Media
16	Male	Politician
17	Female	Oil company
18	Female	Education

Eighteen semi-structured interviews were conducted (Table 1) in Norwegian by the main author, who afterwards coded the data and interpreted the results in English. In some cases, the interviews were conducted together with a Norwegian research assistant. Research methodology offers many different suggestions on how best to gain access to respondents and conduct semi-structured interviews ([30]: 671). In this case, interviewees were chosen via a combination of purposive, snowball, and convenience sampling, the aim being to have representatives of different community groups, including local businesses, fishermen, petroleum companies, local authorities and the general population, both indigenous and non-indigenous. The age range of interviewees is approximately 20–70, and both male and female interviewees are represented. The views identified from the interviews should not be regarded as fully representative of the whole population, as the number of respondents is limited. However, the researchers did succeed in interviewing almost all of the respondents that were contacted.

All interviewees were given the opportunity to remain anonymous in order to promote openness. The disadvantage of anonymity is that it limits the opportunity available to others to validate the material and replicate the study. In other words, there is a trade-off between inner validity and reliability ([37]: 26). In this case, the former was prioritized over the latter to achieve the main research goal of illustrating trends in perceptions.

A semi-structured interview guide was developed to emphasize four themes, generalized in the following questions:

1. How has the oil and gas industry, from your point of view, affected the local community?
2. Do you know the term Corporate Social Responsibility (CSR) and, if yes, what does it mean to you?
3. What, in your knowledge, have oil and gas companies done for the local community in terms of social and environmental measures?
4. What do you personally think should be the responsibility of oil and gas companies operating in the region towards society and the environment?

The interviewees were presented with the topics and allowed to speak freely and without interruption as long as they stayed on topic. Follow-up questions, often referred to as "prompts," and

were used, with the purpose of keeping the conversation flowing or helping the respondent find their own track.

Interviews lasted 30–90 min. The interviews were transcribed word-for-word, or written down based on detailed notes taken by one or two researchers on the same day as the interviews.

In all interviews, the Norwegian term for "CSR" – *Bedriftenes samfunnsansvar*, which literally means "businesses' society responsibility" – was used. The interviewer focused on recording the personal interpretations of the interviewees rather than explaining what was meant by the concept or what the interviewee was "expected" to talk about. The analysis is hence based on what the local population understands with respect to CSR and responsibility of the petroleum companies to the local community.

4. Hammerfest

Hammerfest is a small town with approximately 10,500 inhabitants [60] of which approximately 1200 work in the petroleum industry. Of them, 500 work directly with oil and gas, while other petroleum-related jobs, including the supplier industry, employ approximately 700 people [41].

After natural gas was discovered 140 km offshore of Hammerfest in 1984, local interest groups lobbied actively for its development [42] while there was opposition from environmentalists, fishermen and the Sámi ([38]: 25). At the time, Hammerfest's economy relied heavily on fishing and a small amount of tourism, the town promoting itself as Europe's northernmost, with few other livelihood prospects. The decline in the fisheries in the 1980s and 1990s resulted in unemployment and depopulation, and pessimism prevailed.

Sinclair [57] describes pre-Snow White Hammerfest as a dying town with school classrooms closing, out-migration, and a depressed real estate market. Buoyed by technological advances for operating in the Arctic and high demand for gas [57], construction of the Snow White facilities began in 2002 with gas production starting in 2007. The anticipation and reality of gas revenues revitalized Hammerfest, providing jobs, developing culture, and making it an attractive place to live [22,57].

Five companies comprise the Snow White license group with the operator Statoil – a public limited company in which the Government of Norway owns 67 percent of the shares – owning the largest share at 36.79% [49]. The extraction of natural gas is done on the seabed without any surface installations and the gas is piped to onland facilities in the peninsula Melkøya ("Milk Island" in English, although it is connected to the mainland by a small strip of land) for liquefying and loading onto LNG carriers for export. Melkøya lies 400 m from the Hammerfest shoreline and 4 km from the city center; it is always visible. In 2016, oil production from the Goliath field, operated by the Italian oil company ENI, is expected to start up near Hammerfest. The oil will be transported to markets directly from the offshore field, and there will be no onshore installations affecting Hammerfest directly. However, ENI has a clear presence in the local community, with a local office and staff of approximately 50 [23].

5. Results

5.1. Rapid, visible, positive changes

Oil and gas activities have led to rapid socio-economic changes in Hammerfest, affecting the whole of the population. For a returning visitor who knew the town prior to Snow White, the physical transformation is palpable. New buildings, refurbished façades, a modern culture house with acoustics reportedly only matched in Norway by the opera house in Oslo, and heated pavements that melt snow and ice automatically are some of the features of Hammerfest today, and signals of the town's the new wealth.

When interviewees were asked what oil and gas developments have meant for Hammerfest, all 18 mentioned positive effects. None were directly opposed to oil and gas activities, although the degree of satisfaction varied. Several interviewees used strong, positive words to illustrate how much petroleum development had meant to the local community. These comments by a student, businessman, and politician respectively are typical:

- *"It has been a blessing. This is a strong word, but there has been a total change from pessimism to enormous optimism"* (Interviewee 4).
- "*Everything changed with Snow White.That was when the future came back to Northern Norway*"(Interviewee 6).
- "*Snow White turned everything upside down – the situation went from sunset to sunrise*" (Interviewee 16).

Eight respondents representing a wide range of different backgrounds highlighted the municipality's property tax system as central to reaping local economic benefits of the Snow White project (Interviewees 1, 2, 3, 4, 8, 15, 16, 18). Property tax from Milk Island gives the local municipality approximately NOK 157 million per year [64], while Hammerfest's revenue in 2013 totaled NOK 979.8 million [32]. In anticipation of this tax revenue and facing severe economic problems, the municipality borrowed huge sums for investing locally. As a result, by 2014 the municipality was more than 1.8 billion NOK in debt, the highest amount per inhabitant of any municipality in Norway. Current and future revenue is expected to be sufficient to honor the debt in the long run. No interviewees expressed opposition to this decision, even if it meant an extra tax on all house owners.

5.1.1. Jobs creating livability

The single most important consequence of petroleum in Hammerfest, according to the interviewees, is job creation (Interviewees 1, 2, 3, 11, 7, 10, 14, 16, 17, 18). The jobs provide incentives for youth to stay in the community after secondary school, for locals with higher education to return after studies, and for highly skilled workers to move to Hammerfest from other regions in Norway or, indeed, other countries. Job opportunities have correlated with a substantial rise in population. Since the end of the pre-petroleum decline, Hammerfest's population has increased from 9020 inhabitants in 2002–10,417 in 2015 [60]. While interviewees explain how the community was initially not convinced that petroleum company employees would live permanently in Hammerfest, the majority of Statoil employees working on Snow White now live in Hammerfest with their families.

The importance of jobs was expressed broadly, as in the words of these interviewees in three different livelihoods, here expressed by a representative of the fishery industry, a business developer, and a reindeer herder, who also runs a local business:

- *"Our children grow up here, so it is important to have alternative kinds of jobs. We are in favor of petroleum activity in the Barents Sea, but it must be carried out in a sustainable manner"* (Interviewee 14).
- "*Hammerfest has become a modern community with high competence jobs; after working here people are attractive for employers all over the world. This is an unique opportunity we havent had since the 1970s*" (Interviewee 11).
- "*Petroleum is extremely important for the whole region. It creates jobs, and that is the most important – if not it would have been quite empty here*" (Interviewee 7).

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Although views diverge, as will be seen below, there was a remarkable degree of homogeneity in the responses from interviewees across different backgrounds and interests.

In addition to jobs created directly by Statoil and ENI, the oil companies also provide ripple effects by letting local companies tender for contracts, and by supporting local business incubators such as Petro Arctic and Pro Barents. Furthermore, several supplier companies operate locally, implying increased demand for all kinds of goods and services and, consequently, jobs in the community.

5.1.2. "Bolyst": Hammerfest as an attractive place to live

Many interviewees furthermore described how oil and gas had made Hammerfest a more attractive place to live (Interviewees 1, 4, 5, 12, 13, 16, 17). The word "bolyst" was frequently mentioned, literally translated as "dwell desire" or "dwell wish" but which can be translated as "residential appeal". A whole range of oil-company-sponsored activities were mentioned as contributing to "bolyst," including town parties and festivals arranged by Statoil with famous Norwegian artists and entertainers giving free concerts in the town center. Statoil, according to interviewees, supported children and youth in particular through its "Tomorrow's heroes" campaign involving culture, sport, and technology. Statoil-supported cultural events outside Hammerfest were also mentioned; for example, the North Cape Film Festival in Honningsvåg, the Varanger festival in Vadsø, and the Insomnia festival in Tromsø. ENI was frequently mentioned as a sponsor of art. People can apply directly to Statoil or ENI for money, as both companies have local liaison offices for community contact.

In addition to financial support to cultural, sports, and educational projects, immigration from other parts of the country and from abroad reportedly also help make Hammerfest a better place to live. Interviewee 1 epitomized this view: "*People from southern Norway move here with new ideas, they start movie- and hiking clubs, or other activities.*" A surge of optimism and pride in their own community emerged over their achievements, not least because local lobbying and negotiation skills are seen by some as the reason for the petroleum benefits that Hammerfest reaps. There was a sense of ownership in the industry, its rewards, and the visible industrial development, with Statoil perceived as open and transparent by inviting people to visit the refining facilities.

5.2. "A blessing for Hammerfest, but..."

Despite broad support for oil and gas, an undercurrent emerged in some of the interviews, particularly with interviewees who were not directly involved in business development or politics. The tendency was to first talk about all the benefits of petroleum, telling a similar, apparently "official," sunshine story. After a while, the word "but" often appeared followed by negative side effects, the main being economic and social inequality and the increased price of housing and services, all of which make life harder for people who are not working in the petroleum industry.

The petroleum sector is known for its high income levels. To attract and retain highly skilled labor, additional incentives have been offered to people working in the industry. A family with both parents working in the petroleum industry will usually be far better off than families whose breadwinners work elsewhere. While Hammerfest's income level was low by Norwegian standards, it was nevertheless relatively similar for most of the population. Petroleum has reportedly introduced large income gaps.

Norwegian salary statistics show that the average pre-tax salary of full-time workers in the petroleum sector is NOK 66,900 per month, excluding overtime [61]. In contrast, employees in Norwegian municipalities working in the field of health or social care, including kindergartens, earn on average NOK 37,300 per month, pre-tax [61]. Additional benefits for workers in Statoil apparently include attractive mortgages. ENI provides an list of the benefits of working for them including advantageous bank loans, insurance and pension contributions along with a yearly health check and extra days off [23,24]. Consequently, while many people are better off, the cost of living, including property taxes and the cost of hiring trades people like plumbers and carpenters, has increased for everyone. It is easier for young people to get well-paid jobs, but harder for everyone to access services at reasonable prices.

The social effects were described in different ways, including the transition from a simple life where most people knew each other, to a "harder" society with more focus on money and status. Words mentioned were "less focus on softer values" (Interviewee 1) and "increased class differences" (Interviewee 5). One interviewee explained: "*The petroleum industry has led to, well, not exactly a snob factor, but money means more than before.... We still have our friends and visit each other but it has kind of become a bit 'colder.' People care more about status,* [material] *things and expensive cars. People talk about buying new snow scooters and where they are planning to travel. The petroleum industry has created an illusion that having much money is happiness. It was different before. Calmer*" (Interviewee 15).

It was also mentioned that Hammerfest should have been better prepared for the consequences of petroleum development, as explained by Interviewee 14: "*In the construction phase, 3000–4000 people came here from different places. There were many cases of drugs and violence. Statoil should have planned for this.... It was not good for the local community—a tough time.*" Other negative effects include less focus on developing other livelihoods: *"Everything in the municipality caters for oil and gas business; large industrial areas are made available for the sector. Meanwhile, other sectors, such as tourism, do not have as powerful spokespersons, and do not get prioritized"* (Interviewee 1).

Interviewees were often more reluctant about expressing negative opinions than positive ones. This may mean that negative opinions are controversial, or that the respondents did not want to let the positive sides be overshadowed by less important side-effects.

5.3. Views of CSR

5.3.1. What should petroleum companies do?

The term CSR, presented in English and then translated as "Bedriftenes samfunssansvar" in Norwegian, was unfamiliar to all except two respondents (interviewee 6 and 17). But even if it was unfamiliar, all interviewees showed a high degree of knowledge about what the petroleum companies had done for the local community. They also had clear opinions regarding what they think should be the responsibility of petroleum companies towards local society.

Opinions varied, but some aspects of what they wanted to see in terms of company responsibility were emphasized, particularly the creation of ripple effects by offering job opportunities for the local population, using local suppliers, developing infrastructure, and increasing the attractiveness of Hammerfest as a place to live. Examples of responses are:

- "*The most important is to hire local people so there is more to do* [jobopportunities] *here, so that one is able to keep people here*" (Interview 12).
- "*I think it is important not to create social differences, through high salaries for some groups, and pushing housing prices up. Big companies should think about the social effects of their operations" (Interviewee 5)*
- "*It is very important that companies take a role in the local community, and all contributions are positive. Concerts and festivals would not have been arranged if the companies had not done it. It is important with well-being and welfare, and to have a mix of activities so*

that also wives [of workers in the petroleum industry] *want to move here*" (Interviewee 1)

These expectations were offset by the views of Interviewee 11 who preferred the companies not to do more than in other petroleum regions, such as in Stavanger, Norway's petroleum "capital" in the southwest of the country. Overall, the interviewees expected the oil companies to make significant contributions to the welfare of the community, whether it was called CSR or something else

5.3.2. "If it's legal it's safe": high trust in environmental regulation

In terms of what petroleum companies should be responsible for in relation to the local community, environmental issues tended not to be mentioned. When respondents were asked explicitly about the environmental impact of oil and gas, typical answers included:

- *"Environment? Only a small group focuses on that. We feel that the oil companies inform us well, handle things well, take challenges seriously, have good emergency preparedness. We feel safe that the environment is taken care of. We see more benefits than disadvantages from oil and gas. But of course, if an accident happens, it is serious"* (Interviewee 5).
- *"Concerns about negative effects for the environment mostly come from outside. They are not taken seriously here, they are given no recognition or respect here whatsoever. I think many people trust the authorities to regulate the industry, and that regulations are followed. But I do know there is some risk"* (Interviewee 9).
- *"Environment? Well, national environmental organizations such as WWF and 'Nature and Youth' were against the development of Snow White in Hammerfest – but again, they are against "everything". Fisheries pollute much more than petroleum. . .the petroleum industry is very strictly regulated. The emergency preparedness level is very high, an accident is very unlikely, and the focus on safety is high"* (Interviewees 2 and 3).

The opinions expressed in the quotes above epitomizes the hostility expressed toward people coming in from the outside to oppose oil and gas, which some members of the community consider to be Hammerfest's basis of existence. This hostility was expressed even more explicitly by another respondent: "*I am pissed off at academics and people sitting in cafes in Grünerløkka in Oslo* [a trendy neighborhood in Norway's capital] *arguing against petroleum. They have their things—so why should they begrudge us to have something as well*" (Interviewee 4).

That the industry involved a certain degree of risk was acknowledged by respondents, but the risks were largely trumped by the benefits. Environmental risk was described as a price worth paying by Interviewee 5 who expressed the ostensible trade-off succinctly: "*For us, it has not been a question of environmental risk but of survival and having a place to work*···*Our nature and culture in this region* [where fisheries used to dominate] *is to survive, and we know there is a risk in all activities. Furthermore, we have grown up here, and don't see the nature surrounding us as so unique.*" Another interviewee, representing fisheries, nuanced the picture, but particularly emphasized the risk to the reputation of the Arctic region: *"We care about the environment, we have untouched nature here, and we don't want it to be destroyed. We don't live here because of the climate! A blowout would be negative, especially because it would damage our reputation in the global market for fish. It would be considered negative to buy fish from an area where there has been an oil spill"* (Interviewee 14).

These responses may be symptomatic of the generally high level of public trust in Norwegian authorities, where the state (Norway's government) is responsible for environmental regulations which are assumed to be monitored and enforced. They also highlight a risk-benefit balance, with the interviewees acknowledging the risks but indicating willingness to accept them in order to reap the benefits. Some respondents, however, highlighted the social sanctions that are brought o bear on those expressing opposition to petroleum development; these views were most clearly expressed by interviewees 15, 11 and 12. Interviewee 12, a young female cultural worker, explained that environmental concerns would typically be met with comments such as "*If you care so much about the environment, then why are you living here and reaping all the benefits from oil and gas?*"

6. Discussion

Sovacool [59] suggests a wide range of areas that could deepen and broaden energy research, formulating 75 under-researched questions, including "Why do energy projects continue to hold such an allure despite their inherent drawbacks?" ([59]: 17) and "How do people make decisions about energy when those decisions necessitate tradeoffs?" ([59]: 18). While the context of these concrete research questions is related to geography and scale and behavior of energy users, similar questions can usefully be asked of the Hammerfest case insofar as the study investigates perceptions of the emergence of the oil and gas industry locally, of whether it is worth it despite of environmental risk, and what people think of the necessary trade-offs. These questions are addressed in the discussion below, as well as the relevance of CSR in this context. A third, more normative, question related to promoting climate-friendly behavioral change also is discussed in light of the Hammerfest case.

6.1. What do residents of Hammerfest want?

Synthesizing the interview data presented in the previous chapter, the results indicate a broad consensus about the positive effects of petroleum development in Hammerfest, while the emphasis on negative effects varies among interviewees. Even though most of our interviewees were unfamiliar with CSR as such, they all knew what petroleum companies had been doing for the local community and all were clear about what they should be doing for society at large and the environment. Three main areas were identified as important to the local population: (i) job creation; (ii) ripple effects; and (iii) making the town an attractive place in which to live and work.

Environmental matters including climate change were not given prominence, yet were clearly of concern to some interviewees. It seems that the environment is considered implicitly in terms of livability and quality of life, unlike the policies pursued by external parties (internationally represented by Greenpeace and nationally by Nature and Youth [Natur og Ungdom]) who want to protect the environment for its own sake. It also seems as if the interviewees largely assume the environment will be protected since this, after all, is Norway we're talking about, where actions taken in Norway are assumed to be socially and environmentally acceptable because they are regulated and overseen by Norway's government [50,51]; see also Ref. [75].

On the environmental aspect, some ambiguity is apparent regarding "the Arctic." Many non-Hammerfest-based commentators oppose exploration and extraction of petroleum in the Arctic, including in the Barents Sea. Hammerfest is located well above the Arctic Circle, just above 70°N, yet neither the concept nor the word "Arctic" was used by any interviewee in their descriptions of the region. In fact, most people in Norway do not use the term "Arctic," referring instead to the region simply as Northern Norway in English and Nord-Norge in Norwegian—apart from certain contexts such as when Norwegian environmentalists discuss Barents Sea petroleum. Reference to the Arctic in these contexts may be used

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precisely to highlight the emotive aspect of what is taken to be the pristine and vulnerable "wilderness" at high northern latitudes [6,35,36,39].

Interviewees differ fundamentally however, in their conceptualization of place, on the one hand, and external voices, on the other. The external voices are opposed the extraction and production petroleum above the Arctic Circle, including in places like Hammerfest. Locals in Hammerfest see their town as a regular place where people live and need jobs. They frame the petroleum topic not in environmental terms, but in terms of the economic woes of the past and the need for means of making a livelihood, affirming the Arctic as a diverse subject to multiple discourses [74].

In Hammerfest, the Snow White but partly also the Goliath developments have resulted in clear and visible changes in the community. These changes appear to have benefited the town economically and socially, not merely the people directly involved in the oil and gas sector. The whole area's population, as mentioned by Eikeland et al. [22] and Klick [38], enjoys the rewards. The visible benefits mentioned include the physical appearance of the town, which has been given a "face-lift," improvements to service delivery, such as better educational facilities, and finally opportunities to enjoy events such as industry-sponsored town festivals with free food and music.

The population itself has thus become the greatest advocate of an Arctic petroleum industry, and is eager to attract companies to the region and reap the rewards the companies offer. That is essentially the CSR the public want to see. Other conceptions of CSR involve leaving the environment untouched. Different conceptualizations of CSR (e.g. Ref. [3,10,48]) are confirmed, especially when it comes to differences ascribed to insiders and outsiders, as well as the different players in the Arctic engaged in different manifestations of petroleum-related CSR [4,73].

Regarding the benefits from petroleum activity and its tradeoffs, opinions were divided. Some were aware of the environmental risks but willing to take those risks in light of the economic and job gains. Without jobs, the community would likely die, they said. They rarely consider non-petroleum livelihoods, the implicit assumption being that they could not be as rewarding and lucrative. This lack of environmental concern found in Hammerfest is in line with Klick's ([38]: 39) research: "In spite of its critical role in the debate surrounding Snøhvit's development and Barents Sea oil and gas, the environment is poorly represented by primary stakeholders." The reported views of the interviewees on Oslo-based environmental NGOs also corroborate Klick's ([38]: 41) findings insofar as those living in Hammerfest "largely considered the organizations as antagonists interfering with the community's right to economic development". Fishers' environmental views are similarly matched by this study and by Klick ([38]: 31): "In the face of severe community decline and depression, fishermen were eager to see economic development that would benefit their children and quality of life."

In the Hammerfest case, the public seems both to accept and support the industry. However, when Aas et al. [1] studied perceptions of high voltage power lines in Norway, they found that acceptance can be different from support of energy projects. The NIMBY (Not In My Back Yard) syndrome, identified in many petroleum and other projects (e.g. Ref. [9]), is also countered by an emergent "In My Back Yard If I Gain" (IMBYIIG) instead. This IMBYIIG result is similar to the findings of many other studies of attitudes to large-scale energy projects, not just petroleum ones [62] but also solar energy [13] and wind energy [5,70].

This makes it relevant to bring in a third question from Sovacool ([59]: 18) "How can one persuade or introduce behavioral change in ways that subjects do not perceive as overly controlling?" The question concerns how to facilitate behavioral change so that people are willing to accept more climate-friendly solutions. Its normative fundament cannot be transferred directly to the local context of Hammerfest. Nevertheless, if there is an "outsider's" view concerning the need to raise awareness about the environmental risks, it may be a relevant question in our context too.

There is a dominating narrative in Hammerfest which frames petroleum developments as a success story: Hammerfest is becoming "important," Hammerfest, a place where "things happen," and where people are expected to be "positive." The question is whether this conviction is based purely on facts or whether wishful thinking and social expectations are intermingled. With the continuing fall in petroleum prices since late 2014, plus the ongoing movement to speed up green energy and fossil fuel divestment, the future for Norway's Arctic petroleum is uncertain. Production from the Snow White and Goliath fields is planned to last several decades, but new projects in the region cannot be taken for granted. Does the population have a realistic view of the future of Arctic petroleum? And should one not listen to the views of outsiders – including those of distant shareholders in a petroleum company [52]—before choosing a career, taking action, and making choices? Is it right for people and organizations that are not in the Arctic to oppose an Arctic petroleum industry if the population in the Arctic is in favor? For Norway's Arctic, this debate has long been played out and theorized in Deep Ecology [47], with this Hammerfest study yielding dilemmas similar to those that led to the creation of the Deep Ecology movement. What is the difference between "persuading," "encouraging," "introducing," and "forcing" behavioral change, as per Sovacool's [59] question? The interviewees provide some answers, providing further reasons to examine theories about resource development and CSR for and in Norway [29,33,43,44].

The interviews with the three with the most critical view of the petroleum industry provide a different snapshot; their opinions are not socially accepted and those expressing opposition to petroleum are often the subject of social sanctions. Perhaps what is stated as being what "the people" want is not always representative of all local views or even evidence of a nearly total consensus—not to mention views of "people" from outside the community in question.

6.2. The relevance of CSR

There are many questions related to CSR in the petroleum sector that remain unresolved. How far should a petroleum company go to fulfill its CSRs? Should CSR require companies to think beyond the present and adopt a longer-term perspective than the population expresses? Should companies simply seek to meet the local population's expressed needs—or the needs of a certain segment of the population? In Hammerfest, CSR was not a known term, but the interviewees were clear about what they felt were Statoil and ENI's social responsibilities.

Fundamentally, the crucial things seemed to be a livable town and job opportunities. The perks, such as festivals, were seen as secondary, especially since Norway's system of governance, which gives wide powers to local and regional government, allows infrastructure and social services to be funded from petroleum revenues, even though they are still seen as being part of the government's mandate. Petroleum, according to Hammerfest's community, brings inevitable economic benefits. That baseline could be seen as the companies' contribution to Hammerfest with the government taking responsibility for livability. Notions of "corporate responsibility" would not necessarily enter the discussions. This interpretation has implications for CSR theory, with many of the opinions quoted above implicitly or explicitly assuming that CSR has a reality.

Nevertheless, some petroleum supporters have been companies that are actively selling the benefits, rather than promoting a balanced discussion of the pros and cons. The lack of balance

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is further indicated by the hostility directed at outside opponents of petroleum. A narrative is built around the petroleum "adventure" and around boosting Hammerfest's self-confidence so that potential threats can be ignored and people with doubts silenced.

Hammerfest's interviewees genuinely appear to believe that they have reaped many rewards and that petroleum has given their city and community a future; this is only the beginning of a perpetual grand adventure. Their opinion matches official Norwegian petroleum policy, where Arctic areas are described as core areas in the "Norwegian oil and gas adventure" of the future [46]. Barents Sea resources are increasingly expected to compensate for decreasing North Sea production [46], even though some of expectations might be exaggerated.

The expectations generated by a decade's long story of an industrial adventure mean that most people accept the priority given to the petroleum sector and believe a post-petroleum future does not need to be considered. This view is part of Hammerfest's life, culture, and livability, now and in the future, irrespective of CSR. Even if petroleum prices remain low for a long time, or new substantial discoveries are not made, the regional impact is not straightforward. that said, financial obligations related to the Snow White project will remain for several decades and Goliath is expected to add to the ripple effects in Hammerfest's economy.

Apart from the assumption that the petroleum adventure (or fairy tale, since the Norwegian word "*eventyr*" means both) would last decades and obviates any need to worry about the future, such questions of scale, either spatial or temporal, were effectively absent from the interviewees' consciousness. When parties external to Hammerfest oppose petroleum developments in northern Norway, their arguments largely circumvent local settings and local economies to focus instead on the intrinsic value of nature, the damage caused by spills of oil or other substances, and climate change. Climate change, in particular, represents the global scale and long-term time frame, especially in comparison to the time frames of our interviewees who remained focused on the visible changes (and generally over the short-term) to their community.

This scale mismatch between internal and external views of petroleum development is a fundamental reason for the mismatch of perspectives between the interviewees and external parties. The scale mismatch further provides insights into the questions posed by Sovacool [59] with respect to the relevance of CSR. If the goal of CSR is to induce behavioral change, then the provision of immediate local benefits may result in sentiments of support among a good proportion of the population, as the Hammerfest case so aptly demonstrates. But a focus on global, long-term consequences – ostensibly distant in space and time – is not as likely to have such an extensive impact. Indeed, it has frequently been demonstrated as a reason for inaction on climate change (e.g. Ref. [71]). Similarly, focusing on immediate local benefits demonstrates the allure of energy projects. The drawbacks might be global and in the distant future, but there are local balances and trade-offs for people in Hammerfest seeking jobs, livelihoods, and a good place to live and work ("bolyst").

And when we discuss and implement CSR, to whom should petroleum companies be socially responsible? In seeking a social license to operate [73], such as by using the tenets of 'free, prior, informed consent' [11], some groups are necessarily represented and others necessarily underrepresented. Not everyone in a community will necessarily agree on every issue [69]. For instance, Natur og Ungdom has a branch in Hammerfest's county of Finnmark, although at the time of writing it does not have a Hammerfest branch.

This discussion returns to the questions posed at the beginning of this section, namely "How far should petroleum company CSRs go?" Does a petroleum company CSRs mean averting climate change and therefore shifting over to non-fossil energy sources and services reducing demand? Should Statoil and ENI close Snow White and Goliath down, and instead inform Hammerfest residents about the threat from climate change and the need to acquire local, sustainable energy supplies and adapt demand to supply? The companies would have to think beyond the present, as parts of the population outside Hammerfest believe they should be doing. If that were to happen, then CSR might work more widely for humanity and for future generations, but people in Hammerfest would not see it as a responsibility being met on their behalf, nor would it match any of the CSR policies of the petroleum companies, including their own employees and shareholders [18,52].

7. Conclusions

This paper offers one of the first studies of local perceptions of the development of a petroleum industry in the Norwegian Arctic in examining what people directly affected think the industry has given them and what they expect of the oil companies in terms of benefits to society. The two research questions were:

1. How does the local community in a small Arctic town perceive the effects of large-scale petroleum development?
2. What responsibilities do representatives of the local community think petroleum companies should shoulder on behalf of society and the natural environment?

Regarding the first question, there are stark differences in the way Hammerfest residents perceive the effects of the petroleum industry and responsibilities of the petroleum companies compared to the views of external groups and organizations. The local population is focused on the importance of jobs and economic ripple effects, both decisive in making the community a livable place and reversing the old trend of depopulation. Negative effects of oil and gas are reported too, but as an undercurrent, and environmental issues remain low on the agenda.

Regarding the second question, the general view of petroleum companies' responsibility to society and environment is in line with Friedman's [25] original view that corporate contributions to employment and general welfare suffices as their responsibilities to society. Later interpretations explore a broader view where businesses are expected to contribute actively to society's well being and protection of the environment (e.g. Refs. [3,10,14,16,17,43,44,54]. These, however, are not reflected in the local views of what benefits Hammerfest.

These findings may serve to fill part of the gap described by Sovacool [59] between what energy policy researchers theorize as important and what communities and policymakers think is important and how they act in reality. The respondents interviewed in Hammerfest, including business people and authorities, have a different perception of their needs and interests than many non-locals with advice and recommendations on how the petroleum sector should proceed in the region. This does not mean that the population is ignorant of the social and environmental risks of developing Arctic petroleum or that they think those risks are irrelevant. Instead, they prioritize differently. In order to grasp the full picture of the Arctic petroleum debate, it is important to acknowledge diverging views and that reality on the ground is sometimes different from distant considerations.

Given that large-scale Arctic offshore projects have been explored in other Arctic locations – for example, Alaska [45,56], northern Canada [16,17], and Russia [72]—experiences reported in this case study may provide learning points for companies, governments, and non-profit organizations. While recognizing that the Arctic region consists of distinct communities with diverse interests and needs, increased awareness of the existence of diverging

perceptions and attitudes may have broader importance in the academic and real-world debate on Arctic petroleum policies. Norway, as a petro-state considered to be socially and environmentally responsible [51], could furthermore provide useful insights into how CSRs of petroleum industries could be and are implemented in practice.

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