Russian Arctic
Offshore Hydrocarbon Exploration: Investment Risks
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“...to develop hydrocarbon resources in the Arctic will be more difficult than to explore outer space...”

Alexei Kontorovich, Chair of the Scientific Council of the Russian Academy of Sciences, re: the geology and exploration of oil and gas fields, Interfax press conference – Moscow, 6 September, 2011
Executive Summary

Russian officials say “the development of Russia’s continental shelf is characterized by the most complicated working conditions and requires the use of new and unique technologies. At the same time, among the major constraints are: extremely difficult natural climatic and engineering-geological conditions, lack of infrastructure, remoteness of extraction areas from coastal support bases, and the absence of proven technologies for the development of offshore oil and gas fields” in the Arctic.”

These factors have unfortunately been proven through decades of irresponsible exploitation of Russia’s mainland oil and gas fields, including the Arctic portion, by oil and gas companies with an exceptional disregard to safety and environmental protection. According to official Russian sources, Russia is the undisputed world leader in the frequency and severity of pipeline spills, with poorly constructed and maintained pipelines spilling oil from corroded and mismanaged systems more than 20,000 times per year in 2010 and 2011. Ongoing deterioration and neglected maintenance will only increase the spills from this highly stressed pipeline system.

While the Russian authorities do not have an accurate accounting of annual volume of oil spilled by pipelines, expert assessments of oil and petroleum product concentrations within Siberian rivers lead Greenpeace to conclude that, at least, 5 million tons of crude oil and petroleum products are released into the environment annually. Greenpeace estimates, at least, 500,000 tons of oil from these spills are then annually carried by Siberian rivers to the Arctic seas.

This current reckless decades-old common practice of annual Russian land-based oil spill migration to the Arctic Sea is BEFORE Arctic shelf development will add the risk of significant oil spills at sea. If Russian oil and gas industry for an extended period of time having all necessary technical capabilities and infrastructure could not bring regulations to the existing fields, there is no reason to hope that it will show any more responsible attitude to environmental issues when developing Arctic shelf.

While the environmental, social and financial risks are daunting within such an unforgiving operating environment, investors must also depend upon a politically unstable regime consistently suppressing any viable path for democratic reform. The arbitrary nature of a state government increasingly struggling for legitimacy from its own citizens is an imminent catastrophe for any investor. While a mismanaged Russian government driven by corruption as it battles to fill increasingly large budget gaps is a recipe for financial uncertainty for any investor reckless enough to risk their own or their clients’ funds. In 2011, Russia scored 2.4; 143/182 countries assessed by Transparency International as to the perception of corruption of its public sector (where 0 means that a country is perceived as highly corrupt and 10 means that a country is perceived as very clean).

The US Geological Survey has estimated that the entire Arctic could contain up to 90 billion barrels of oil (and it is important to stress two key words: estimated and could). While some, displaying a “gold rush” mentality, believe in “huge existing reserves”, the existing figures from Russian official sources indicate that US Geological Survey estimations are too optimistic. For instance, the US Geological Survey estimates the Barents Basin may contain as much as 9.5 billion barrels of oil, while Russian geological estimates indicate approximately 3 billion barrels for the same basin with only a quarter proven (categories A+B+C1 according to the Russian classification). Under the most optimistic scenario, the Russian Arctic offshore will provide in the coming 20 years a maximum of only around 13.5 million tons of oil annually. For comparison annual oil production in Russia at present is 3.6 billion barrels (about 500 million tons).

Far past the financial point of making Russian Arctic offshore oil and gas exploration and production uneconomic, the investments necessary for safe operation within the Russian Arctic offshore will still be far from satisfied.

The losers in this race will not only be the Arctic environment and indigenous communities, but also the investor and business interests lured by false promises and irrational optimistic assessments. This brief focuses on Russian examples, however a number of the issues raised here are equally relevant for all Arctic regions i.e. Canada, USA and Scandinavia.
1.1. Oil Spills Risks

Mitigation and clean-up of oil spills within Arctic offshore is at the highest cost levels.

Currently, within the Russian Arctic, inadequate investments in the safe operation of oil and gas exploration and production already result in a huge quantities of oil spilled within the environment of the Arctic zone.

For example, during the last few years the territories of the Yamao-Nenets Autonomous Region have revealed that practically half of all the oil cluster wells that were drilled there are contaminated with oil. Among the main causes were: ruptures of pipelines due to their corrosion, technological and construction defects, collision of vehicles with pipelines, and violations of technological requirements during the maintenance and repair of pipelines. The overall poor technical state of Russian trunk and interfield/gathering pipelines can be characterized as critical, requiring urgent and radical solutions.
Estimations of oil spill volumes within the Russian Federation differ greatly: from 2 thousand tons up to 20 million tons per year (please see table A).

Assessing the credibility of these varying estimates, it can be reasonable to assume that the annual discharge of oil into the mainland environment constitutes several million tons, Greenpeace Russia estimates at least 5 million tons being discharged into the environment every year. This spill rate is about 6 times greater than the volume of a 2010 Gulf of Mexico spill.

Contamination of the soil with oil within the Yamalo-Nenets Autonomous Region resulting from oil extraction, processing, transporting and distribution exceeds maximum allowable rates by many times. Due to the oil contamination impacts, the Nadym river has completely lost its commercial fishing capacity, while the Pur, Sob’ Yevo-Yakha and other rivers are at the brink of losing their spawning capacity.

Currently, oil contamination within the Arctic basin rivers has already reached high levels: “the contamination by dissolvable and emulsified oil products, and other components of “anthropogenic” origin, involve vast areas of the Lower Ob’ region, the Ob’, Taz and Baydoratsk Bays, while the Kara Sea had an alteration of the biocenoses within the entire basin.”

As it runs through very big oil fields the Ob’ river (Western Siberia) alone suffers from 100000 tons (over 700 000 barrels) of oil contaminating its waters every year. Already, river flows account for up to 0.5 million tons of crude oil and petroleum products entering the Russian Arctic Seas per year (see Table 2).

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**Examples of major accidents within the Russian Arctic/Near Arctic regions that caused large-scale spills of oil and petroleum products and led to a long-term contamination of the area.**

**Accidents related to oil drilling:**

**Accident at the Kumzhinsk gas field**

The Kumzhinsk gas condensate field is located in the Pechora river delta. An accident occurred in November 1980 and led to an uncontrolled flow of gas condensate that lasted for 6 (!) years and caused massive damage to whitefish feeding areas. (a similar situation occurred in March 2012 via Total’s gas field in the Northern Sea near Scotland’s shore).
Greenpeace
Russian Arctic
Offshore Hydrocarbon Exploration:
Investment Risks

Table B: Oil and oil products released annually via the Arctic basin rivers.²⁷

<table>
<thead>
<tr>
<th>Rivers</th>
<th>Run-off, km²/year</th>
<th>Oil concentration in the water mg/liter</th>
<th>Maximum Allowable Concentration (MAC) for waters of commercial fishing importance, mg/liter</th>
<th>Oil outflow into Arctic Sea, tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pechora</td>
<td>106</td>
<td>0.05</td>
<td>0.05</td>
<td>13000²⁸</td>
</tr>
<tr>
<td>Ob¹</td>
<td>385</td>
<td>0.35</td>
<td>0.05</td>
<td>125000</td>
</tr>
<tr>
<td>Yenisei</td>
<td>244</td>
<td>0.4</td>
<td>0.05</td>
<td>255000</td>
</tr>
<tr>
<td>Lena</td>
<td>514</td>
<td>0.06</td>
<td>0.05</td>
<td>25700</td>
</tr>
</tbody>
</table>

Accidents related to oil pipelines: Accident in the Usinsk area, the Komi Republic
In 1994, an accident at the Vozey-Golovnie oil pipeline (that had been operating for 15 years before the accident without a proper maintenance regime or sufficient repair protocols) in the Usinsk area of the Komi Republic, resulted in a spill of – according to different estimates – 100 to 350 thousand tons of oil-containing fluids. The spill badly affected the Kolva, Usa and Pechora Rivers as well as 8 settlements (mostly indigenous people’s villages) along the rivers. The spilled oil caused the heaviest damage to the Near Arctic ecosystem: e.g. many migrating birds died; while according to local fishermen, since 1995 the fish stock of whitefish, nelma and grayling in the Kolva River has dramatically decreased.²⁹

Accidents related to oil transportation by tankers: Accident in Onega Bay
On the 1st of September, 2003, the bulk oil ship belonging to the “VolgoTanker” company suffered an accident in the Onega Bay of the White Sea. As a result, more than 54 tons of fuel oil leaked into the water, while the carrier escaped from the locus of the accident. The information about this spill was released 4 days later, when the sea started casting ashore settled fuel-oil. According to the information from local residents and mass media sources, up to 74 km of coastal line was contaminated, while no less than 700 birds died as a result of the contamination (and were gathered and burned).³⁰

The risk of oil contamination can only increase with the further growth of offshore Arctic oil drilling and transportation activities. This prediction is based on decades of oil spills within the Russian Arctic and by the current unsafe operational practices of oil and gas companies at already developed and new oil fields. Please see Likoi’s and Gazprom’s irresponsible operational practices below.

JSC “LUKOIL”
Graphic 1. Oil pollution dynamics for a given oil production company (JSC "LUKOIL").

Gazprom Neft Shelf, LLC
Ignoring Russian national legislation Gazprom Neft Shelf, LLC has launched the Prirazlomnoye off-shore oil field development project without finally approved oil spill response plans (as verbally indicated by Gazprom Neft Shelf as of March 2012). Additionally the construction of its drilling platform was incomplete in August 2011, but was nevertheless towed to a remote drilling point in the Barents Sea, where its construction was to be finalized.

Gazprom Neft Shelf, LLC has grossly inadequate oil spill compensation plans, while the true cost of significant oil spills could reach many US$ billions.

Experience from the 2010 Gulf of Mexico oil spill shows that mitigation work could easily be more than US$ 3 billion,³¹ while economic restoration of the impacted
Gulf coast communities required not less than US$ 7.8 billion to fund individuals, businesses and government entity claims as well as other payments for seafood research and testing, tourism, behavioral health and other contributions. All expenses connected with the 2010 Gulf of Mexico accident were assessed by BP at more than 40 billion USD: the total charge taken for the incident was US$41.3 billion.

The mitigation and clean up costs of a 2010 Gulf of Mexico equivalent oil spill within the Arctic offshore will certainly be much higher than the 2010 Gulf of Mexico oil spill as there is insufficient infrastructure to quickly initiate and effectively engage clean up work. All together 6,563 ships took part in the mitigation works in the 2010 Gulf of Mexico oil spill where the infrastructure is far more developed than in any Arctic region. In the Arctic offshore, there is no such infrastructure, and none which is approved by either Russian or USA authorities. For example, the nearest from the “Prirazlomnaya” platform federal rescue station and necessary infrastructure are located in Murmansk – about 1000 km from the platform.

The existing Prirazlomnaya insurance for potential ecologic damage is little more than symbolic constituting just 7 million Russian Rubles (or about US$ 230 thousand). According to a verbal confirmation from Gazprom at a meeting with NGOs on December 8th, 2011, Gazprom does not have enough financial resources to ensure any reasonable level of oil spill mitigation work and they are looking for international partners to re-insure the Prirazlomnaya project.

At the same time in its recent report (issued in April 2012) insurance company Lloyd’s believes cleaning up any oil spill in the Arctic, particularly in ice-covered areas, would present “multiple obstacles, which together constitute a unique and hard-to-manage risk" . Richard Ward, Lloyd’s chief executive, urged companies not to “rush in [but instead to] step back and think carefully about the consequences of that action” before research was carried out and the right safety measures put in place. Unclear legal boundaries posed by a mosaic of regulations and governments in the Arctic are an additional challenge. The Lloyd’s report notes that there is no international liability and compensation regime for oil spills.

The reality is that the risks of an oil spill are so high that the costs to responsibly mitigate against oil spills make the project economically unfeasible. It is only by risking the Russian Arctic environment without adequate resources invested, that investors can hope to profit from their recklessness.

**Image 2.** Landscape degradation because of oil development is also spurred by road construction. Yamalo-Nenets Autonomous Region, July, 2011.


**Image 4.** Numerous dumps of solid household and industrial waste prove to be a widely spread phenomenon in the Russian Arctic. Usinsk district of the Komi Republic, May 2011.
1.2. Landscape Degradation

The commercial development of the Arctic region leads to the deformation of soil including thermal erosion in the continuous permafrost zones. This appears along linear industrial installations and particularly along oil and gas pipelines. According to some experts’ assessment, in the course of trunk pipeline construction each 100 kilometers result in 500 ha of damaged lands.\(^1\)

The total length of all oil pipelines in the Komi Republic totals 15,000 km (including about 700 kilometers of trunk pipelines).

As of 2002, the oil pipeline system within the Khanty-Mansiysk autonomous region comprised 64,000 km of oil pipelines. The interpretation of space images covering 236 oil production areas provides evidence that 1.089 million ha should be categorized as damaged lands.\(^3\) This is 2.04% of the Khanty-Mansiysk district’s total area. In comparison, the total territory of the Netherlands is approximately 4 million ha.

The annual growth of damaged lands reaches as many as 5-6 thousand ha from oil industry activities and 2.5-3 thousand ha from gas industry activities. In total, approximately 10 thousand ha are damaged by oil and gas activity each year, i.e. 1/5 of the area reserved for an oil field’s development (an average of 50 thousand ha are reserved).

As the recovery rate of the regional vegetation within the Arctic is significantly lower than in regions located to the south, the methods and technologies applied for the rehabilitation of oil-contaminated lands are frequently ineffective. Additionally, these rehabilitation activities are usually only initiated along, and close to, the existing roads and are not extended to harder to access, but heavily contaminated areas. In many cases no real rehabilitation takes place but rather oil-spilled areas are just covered with sand while oil is left behind in the soil and ultimately contaminates ground waters, freshwater systems and, finally, flows into the Arctic Seas.

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\(^1\) The satellite images of roads and other oil and gas infrastructure were calculated by including a distance of 250 meters on each side of the object (according to expert estimates, Greenpeace assesses human impact on forest ecosystems as significant within this 500-meter buffer zone around roads and other oil and gas infrastructure). Greenpeace therefore calculates the area of disturbed landscapes as of about 0.1 million hectares per the 10 million tons of
oil extracted annually. For example, if Russia provided Germany’s annual oil needs of about 120 million tons via Russia’s destructive oil extraction practices the degraded area would be equivalent to 1.2 million hectares (an area equal to 3% of Germany). Calculated as: 0.1 million ha of land degradation / 10 million tons of oil X 120 million tons of oil = 1.2 million ha equivalent of degraded land. Please see Graphic 2.

1.3. Oil and Gas Production Related Atmospheric Pollution

Oil and gas production related atmospheric pollution is mainly caused by associated gas (AG) burning. Russia is the world’s leader in the volume of AG burning, followed far behind by Nigeria, Iran, Iraq, Kazakhstan, Algeria, Libya, Angola, Saudi Arabia and Qatar. Different calculations estimate that out of 55 billion m$^3$ of the AG produced in Russia annually, the volume of burnt AG comprises from 15 up to 38 billion m$^3$. According to the Russian Ministry of Natural Resources, only 14 billion m$^3$ (26%) are processed annually, while a significant portion of AG containing a significant amount of methane (about 60-80%) is released directly into the atmosphere. According to the RF Government data, the AG blow-outs into the atmosphere may reach 10 m$^3$ per each ton of recovered oil. That would equal about 5 billion m$^3$ of AG released annually into the atmosphere from the Russian oil industry alone. Significant releases of gas occur within the Russian gas industry as well.

Climatic Impact

The noted 5 billion m$^3$ of AG (containing 60% methane) released into the atmosphere correspond to 30 million tons of CO$^2$ equivalent. According to the World Wildlife Fund’s estimates, an additional 100 million tons of CO$^2$ are released annually due to AG burning within Russia. Due to the lack of an effective AG recovery system, the total greenhouse gas (GHG) effect is estimated to be 130 million tons of CO$^2$ equivalent (the sum of direct emissions of AG and burning AG) annually within Russia. Which is approximately 7% of Russia’s total annual GHG emissions or 0.4% of global GHG emissions from the energy sector. The majority of the GHGs from non-utilized AG are produced from Russian Arctic fields.

image 5. Associated gas burning in Usink region of the Komi Republic, May 2011.

Toxic Pollution

AG burning also causes significant emissions of carbon monoxide, nitrogen dioxide, methane, methanol and carbon black. According to the estimates of the RF Ministry of Industry and Energy, 321.8 thousand tons of polluting particulates were released into the atmosphere in 2004 via oil and gas production (about 12% of the total volume released within Russia).

The Nenets Autonomous Region

The main source of the atmospheric pollution within the region is the open AG burning via flares, constituting up to 70% of the total pollutant emissions.

Prospective Resolution of the Problem

The resolution of AG’s current under-utilization is constantly delayed. According to the RF Governmental resolution, all oil and gas companies in Russia were to ensure 95% of AG utilization via all their fields by the 1st of January 2012. Meanwhile the RF Ministry of Energy admitted that oil and gas companies have not been able to reach the required level of 95% of AG utilization by 2012. The required utilization level is now predicted no earlier than in 2014.
By 2008, the volume of pollutants discharged into the atmosphere of the Yamalo-Nenets Autonomous Region increased by twice as compared to the year of 2000. This doubling is associated with an increase in raw hydrocarbon production and an increase in the volumes of natural and associated gas burning. Irresponsibly, the existing ineffective approaches to AG utilization are also applied at new fields, confirming that oil and gas companies will unlikely meet the requirements for an AG utilization level of 95% even by 2014.

1.4 Impact on Biodiversity

The populations of rare Arctic animals (Red-listed species) are suffering a significant impact due to industrialization within the Arctic region. Degradation, fragmentation and contamination of the landscapes within the lower reaches of the Pechora river, in the Yamal Peninsula, in the western part of the Taimyr Peninsula and in the Chukotka Peninsula have led to a significant decrease in the number of some Arctic mammals and birds. Additionally, the migration of some animals (e.g. brown bear, lynx and fox) has been forced further to the North. The contamination of the Arctic environment causes chronic toxicoses, immunity suppression and additional multiple diseases to Arctic mammals.

The effects of permanent oil pollution can lead to intoxication and development of abnormalities of semidiadromous and river fish wintering within the Arctic regions of the Gulf of Ob’ and in Taz Bay. Continuous pollution resulting from regular and emergency releases or leaks of drilling mud and drilling waste waters will also decrease the survival of infantile bottom crustaceans and shell fishes and will suppress the reproductive capacity of full-grown species.

In many cases the boundaries of hydrocarbon deposits located on the Arctic shelf coincide with, or run in close vicinity to, the areas characterized by high biological productivity and rich fishery resources. For example, the “Prirazlomnaya” oil platform – the first Russian ice-resistant stationary oil drilling platform within the Russian Arctic offshore – will be located within 50-100 km of the Nenets Nature Park and a number of federal nature reserves. The risk is irresponsibly high that the water basins and coastal zones of these parks and reserves will be contaminated via oil spills.

Threats to biological diversity are also associated with the fact that a great number of people, associated with oil and gas developments, are now entering previously uninhabited territories. This has become one of the reasons causing fish stock depletion in many rivers and lakes of the continental tundra of the Yamalo-Nenets Autonomous Region.

The existing oil and gas infrastructure increases the feasibility of illegally harvesting flora and fauna within these regions. During the last 15 years, there has been a significant increase of illegal harvesting of the most valuable fish species within the lower reaches of the Western Siberia rivers and in the Kara Sea bays (mostly white fish and sturgeon driven by the demand for delicatessen products from white fish and sturgeon in regional oil and gas production centers). Illegal harvesting is achieved by the historical development of a special infrastructure: during the Soviet era, the “Minneftgasstroy” started the construction of a port at the border of the Yamburg gas field in the area of a sturgeon wintering basin (the Nyudi-Epoka-Yaha river mouth). This construction was launched by the order of Gazprom, despite the resistance from environmental protection bodies. As a result of the port construction, Yamburg became a transshipment base for illegal fish products delivered to other cities in the Western Siberia such as Urengoy, Noyabrsk and Surgut.

According to a confidential source, within the management bodies for gas production enterprises there are specialized departments that purchase illegal products for the enterprises’ employees. Development of new infrastructure for the Yamal gas deposits will inevitably lead to an increase of illegal fishing of white fish and sturgeon in the Gulf of Ob’. Adding to the pollution of this Gulf by contaminating substances brought by river outflows, it may result in an almost complete loss of these fish populations within the next 5-10 years.

In theory, the problem could be partially resolved by establishing a conservation territories system within the Arctic region. At present, there are 14 national parks and the Franz Josef Land Nature Reserve in the Russian Arctic, but there are no marine park networks within the region and therefore marine ecosystems are not protected by any effective aquatic protection system. The total area of the Northern, Arctic and Near-Arctic specially protected natural areas comprise about 30 million ha – that constitutes about 5% of AZRF (Arctic Zone Russian Federation) territory. However, experts agree that less than 50% of landscape diversity and only 60-65% of terrain biological diversity are
currently represented within the protected areas (20-30% of flora, rare species in particular, and 70-75% of fauna). The territories are suffering from poorly planned industrialization which is most actively facilitated by irresponsible national government policies.

In 2010, part of the “Russian Arctic” National Park was unprotected from gas recovery activities. The same year a part of “Yugyd Va” National Park in the Nether-Polar Urals was unprotected from gold mining.

1.5. Implementation of Higher Safety and Environmental Standards Is Critical

Much higher additional costs for implementation of higher exploration/production standards.

To reduce risks of potential oil spills in the result of the Arctic off-shore drilling, governments must develop higher exploration/production standards which greatly increase exploration/production costs. These higher standards make Arctic offshore drilling too high risk to accomplish responsibly.

On June 9th 2011, the RF President issued an order allowing oil extraction in ice conditions only if the operators have proven methods to clean oil spills under the ice to provide environmental safety during hydrocarbon exploration projects. Of course, there are no such effective methods in the world, and therefore any oil activity within the Arctic offshore will not meet this presidential demand.

In Canada, to drill in Arctic waters, companies must be able to complete a so-called relief well in the same season that they drill the exploration well, in order to cap any potential leaks before they would spill throughout the long winter when ice conditions makes such well shutdown operations impossible. The Canadian industry (e.g. Chevron, Imperial) acknowledged that even this very basic necessity of a same-season-relief-well requirement is virtually impossible to meet.

In the USA Shell is now challenging the decision of the US Bureau of Ocean Energy Management to shorten the drilling window in Alaska by 38 days in 2012. According to Shell, this ruling “essentially takes away one-third of the time we would be able to drill, which means the elimination of one well from our three-well exploration plan. This would have a significant effect…we believe the restriction is unwarranted.”

1.6. Social Risks – Violations of Indigenous Peoples’ Rights

Implementation of oil and gas projects within the Arctic offshore will violate indigenous people’s rights. Its happening already within the Russian Arctic onshore.

Indigenous groups of the North, Siberia and the Far East of Russia (totaling about 250 000 people) are one of the most vulnerable parts of the Russian society. Their economy and traditional lifestyles are directly dependent on subsistence fisheries, hunting, deer farming and gathering, so the development of extractive industries, private fisheries and forest industrialization catastrophically affects their traditional territories forcing indigenous people to leave these territories.

Oil and gas projects within the Russian Arctic have already created tremendous social disruptions by conflicting with local communities and jeopardizing their environment. In 2009, Sergey Konовалov – at that time Deputy Governor of Yamalo-Nenets Autonomous Region – indicated that 165 families in the Yamal peninsula had to abandon their pastures used for reindeer herding due to hydrocarbon development on their traditional lands (the main operator of gas industry development in Yamal is Gazprom).

Existing legislation mechanisms does not provide adequate reimbursement of damage inflicted to the critical resources of indigenous groups and their lands. Oil and gas development causing massive air, soil and water pollution in the areas of indigenous people’s traditional living has driven these people so desperate, that some of them are already prepared to defend their lands and traditions with arms in their hands.

1.7. Social Risks – Health Impacts

The contamination of soil and ground waters (including drinking water) with hydrocarbons is a problem of great concern within oil and gas producing regions.

If just 1m³ of oil is released into the soil – the potential area of the polluted surface layer, and its associated ground water, could be about 5 thousand m². There is a lack of systemized statistical data on ground water contamination. Some available data indicates that oil and oil
products, phenols and other pollutants specific to oil production are present in the ground waters of Sredneob’ oil and gas region (Western Siberia) in concentrations that exceed maximum allowable levels."

Unsatisfactory drinking water quality is also revealed in the Nenets and Yamalo-Nenets autonomous regions, where the concentration of petroleum hydrocarbons in drinking water reaches from 10 to 35 times MAC (maximum allowable concentration)."

According to the information from the Kolva settlement residents (the Komi Republic), the Kolva river has been continually contaminated with oil spills since the 1970s through the present. In August 1994 a huge oil spill occurred in the Usinsk region. It happened in the Haryaga-Usa collecting pipeline in its Vozey-Golovnyie section and led to a spill of 100,000 to 350,000 tons of crude oil. As a result of the oil spill, several populated areas were badly affected, including the Kolva settlement."

After the spill, the oil content within the river was 0.15-0.40 mg/l (while the respective MAC is just 0.05 mg/l). Further studies revealed a rapid increase (after the year of 1994) in morbidity levels among the Kolva residents, who could not avoid direct contact with the spilled oil products.

During 1995-97, the morbidity levels in Usinsk increased by 4% among adults, and by 3% among children as compared to the period of 1990-94; and in the Ust-Usa village – by 11% and 9%, and in the Kolva settlement – by 16% and 20%, respectively. Please see Table C.

### Table C. Morbidity levels among children, cases per 1000 persons, within the period 1992-1996.

<table>
<thead>
<tr>
<th>Year</th>
<th>Diseases</th>
<th>Kolva settlement</th>
<th>Ust-Usa settlement</th>
<th>Usinsk city</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>Infectious diseases</td>
<td>248*</td>
<td>313*</td>
<td>87</td>
</tr>
<tr>
<td>1993</td>
<td>Nervous system diseases</td>
<td>165</td>
<td>272*</td>
<td>209</td>
</tr>
<tr>
<td>1993</td>
<td>Respiratory diseases</td>
<td>1041</td>
<td>1305*</td>
<td>1004</td>
</tr>
<tr>
<td>1994</td>
<td>Nervous system diseases</td>
<td>196</td>
<td>287*</td>
<td>196</td>
</tr>
<tr>
<td>1994</td>
<td>Respiratory diseases</td>
<td>1231*</td>
<td>1674*</td>
<td>730</td>
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<td>1995</td>
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<tr>
<td>1996</td>
<td>Infectious diseases</td>
<td>230*</td>
<td>288*</td>
<td>95.8</td>
</tr>
</tbody>
</table>

* significant differences in morbidity rate as compared to Usinsk.

The situation within the Tyumen’ region (Khanty-Mansiysky Autonomous Region)

About 97% of the total drinking water volume taken from the Vakh River in Nizhnevartovsk (the region of active oil production by LUKOIL and TNK-BP) during 1996-2001 was contaminated with high concentration of oil products. This was also true for the drinking water taken via underground sources. The situation is exacerbated by the fact that there are private and officially uncontrolled water-supply wells in the region; in 85% of such wells the level of oil products in the water significantly exceeded allowable limits. In Nizhnevartovsk, the morbidity rate from diseases (caused by poor environmental conditions) is one of the highest among all Russian cities. The rate of cancer diseases is 2-3 times higher than in any other Russian region."

1.8. Socio-Economic Conditions in Oil Production Areas

Intensive development by the oil and gas industry is generally accompanied with large-scale PR campaigns from the industry. Rather than truthfully acknowledging the high risks of environmental contamination, these PR campaigns are focused on making the local residents believe that the activities related to oil drilling and production are absolutely harmless and will positively contribute to the overall development of the region and its infrastructure.

The oil companies promised before launching the “Sakhalin-2” project: “The establishment of this local gas-supply system (especially in the southern part of Sakhalin) will stop environmental pollution
from fuel oil, coal and wood combustion. It is very important for saving the magnificent natural resources of Sakhalin. Besides, the ‘extra’ gas could be exported, thus assuring profits in hard currency; and a significant part of these profits will be spent for regional development”.67 “One needs to take into account that before oil and gas-related facilities are put into operation, there will be ports, roads, electricity-supply lines as well as dwelling houses constructed and communication lines laid. We’ll also train specialists among the local public to work in the oil and gas fields and moreover, the service sector will beneficially develop. Additionally, a great deal of money will be transferred to you for the right to operate these oil and gas fields.”68

However, the analysis of the situation after the beginning of oil and gas exploration in Sakhalin reveals that, according to the Federal Tax System, 95% of aggregate taxes are directed to the federal budget and only 5% – to the regional one (it is a similar situation in the case of the Shtokman project). Additionally, the Sakhalin region was not granted any gas price preferences, on the contrary – the gas was purchased for the region’s needs at the average commercial world market rates and the region must still depend on coal. Statistical data also proved that during the implementation of gas projects within the Sakhalin region, the number of schools, colleges and higher educational institutions did not increase but rather actually decreased. The number of students has decreased accordingly. There is also a huge difference in salary levels in the region between the oil and gas sector employees and those of the secondary sector and other sectors. The regional budget deficit during 1998-2004 did not decrease, but rather it grew from 5% to 14% before 2011.69 The construction of the liquefied gas plant in the town of Korsakov (located in the southern part of Sakhalin) resulted in only 172 people employed in 2004, out of 4500 who applied to the companies engaged in the plant’s construction.70

Despite the industry and government claiming financial stability within the resource-producing regions, commercial shipping, infrastructure investments, sufficient housing stock and communal services are often deeply in crisis.

A considerable part of the local population in the Yamalo-Nenets Autonomous Region continues residing in poor living conditions. This problem proves to be so acute in the region that it was addressed at the meeting between Governor of the region Dmitry Kobylykin and RF Prime Minister Vladimir Putin. As Dmitry Kobylykin said “practically 50% of residential housing in the region are slum dwellings”.71
1.9. Human Rights in Oil and Gas Production Areas

The exploration of oil and gas fields often results in a high level of imbalanced economic concentration, i.e. “monopolization” of the regional economy, and politics. Oil companies make agreements with local authorities and law enforcement bodies regarding “special rules of play”, and the rights of local population are, as a result, often drastically undermined. Consequently, there are restrictions in mass media freedom and social control, while law enforcement does not effectively investigate violations of the law by the oil and gas companies.

Sample of direct pressure to media

May, 2006. Thousands of copies of the “Novyi Sever” (the Izhemsk regional daily) were reprinted (in the Ukhtinsk printing-house) with a critical article censored and removed. That article was about ruptures along the “Makarelskoe fields” collecting pipeline, the violation of the project terms related to the operation of this pipeline and about hiding the information of these oil spills. Instead of this article, they printed a “social wash” article by a PR-specialist of the “LUKOIL-Ukhtaneftegaz” about the charity aid of the oil company to children in orphan homes, so the readers of the “Novii Sever” did not get the data on the environmental pollution.

Sample of oil companies and state’s reaction on oil spills

April 28, 2007. The TRPRC (To Rescue the Pechora River Committee) volunteers (local public ecological non-governmental organization) discovered an oil spill in the Pechora River near the Neftepechorsk village. This information was provided without delay to law enforcement and control authorities of the Komi Republic.

May 4, 2007. Members of the Civil Defense and Emergency Committee together with the official representative of the “LUKOIL-Ukhtaneftegaz” Company were to visit the place where the spill had occurred. Standing on the bank of the Pechora River, the chief engineer of the company stated that the organization providing ferry-crossing services “has no authorization documents and the ferry boat will not go to the opposite bank”. As a result, the NGO volunteers were stopped from getting to the place of the spill. In the evening of that same day, the TRPRC volunteers were informed that the ferry boat began working again a few hours after their departure. The local residents reported that oil-contaminated ice was pushed into the water by heavy bulldozers. Where the contaminated ice could not be reached by heavy machinery, it was melted by steam-generating machinery brought on the ferry boat.

May 8, 2007. The TRPRC volunteers finally gained access to the right bank of the Pechora River by boat. They saw a mound at the coastline with oil oozing out of it. Water tests were taken and the TRPRC volunteers prepared a draft report.

May 10, 2007. The report provided to “LUKOIL-Ukhtaneftegaz”, was subsequently edited by the very company to remove many of the facts of the oil spill in the “new” report version. The facts edited out of the company’s version were that “LUKOIL-Ukhtaneftegaz” management did not execute the order to provide transportation for the official commission members (i.e. to take them to the other bank of the Pechora River) for a very long time. In the company’s version, the scale of oil contamination was decreased (oil contaminated areas found at the place of spill were missing), the oil film over the water near the riverbank disappeared, and mention about the TRPRC volunteer visiting the sludge collector and of oil contaminated ice “vanished”, while the level of flora contaminated with oil was drastically reduced. Additionally, the responsibility for the oil contamination was shifted from the company to private individuals, as there were convenient private buildings and boats in close vicinity.

May 11, 2007. The representative of the Federal Veterinary and Phytosanitary Monitoring Service (Inspectorate of Fisheries) bluntly refused to sign this company-censored version of the report, while the representative of Civil Defense and Emergency of Sosnogorsk signed the document with “remarks”.

Sample of data on oil spills falsifications by oil companies

In 2009 The RF Public Prosecutor’s Office in the Komi Republic initiated a criminal case against the company LLC “LUKOIL-Komi” for the falsification
of data regarding an oil spill in the region of Kyrtael-Chikshino. An abstract from the Prosecutor’s statement: “In April of 2009 the LLC “LUKOIL-Komi” released information to the mass media that the specialists of the company finished the removal and utilization of the whole volume of oil spilled within the area of the Kyrtael-Chikshino oil pipeline. It was also stated that the “dewaxing” of the ruptured pipeline was performed under the confirmation of controlling authorities; the location of oil pits were sited at a safe distance from water bodies, in frozen ground that excludes oil penetration into ground waters”. Yet, the investigating committee of the Public Prosecutor’s Office insists that these claimed by the company facts have nothing to do with the reality. The controlling authorities (Rosprirodnadzor of the Komi Republic, Pechora Interregional Division for Environmental and Engineering Supervision, Dvina-Pechora Federal Fishery Agency, Pechora Environmental Protection Committee, Forest Committee of Komi Republic), asked by the Pechora Environment Protection Interdistrict Prosecutor Office to check unauthorized locations of spilled oil along the Kyrtael-Chikshino oil pipeline did not confirm the company claims, re: location of pits along pipelines and oil disposal into them. Water samples taken during this investigation showed that oil content within water sources located near the pits exceeded maximum permissible limits by 60-70 times. As a result, the Prosecutor’s office was appointed to conduct a detailed expert examination of the water and ground of the Kyrtael-Chikshino territories, as well as assessing the lawfulness of LLC “LUKOIL-Komi’s” actions. At present, the oil is yet to be removed and partly oil spill is covered by earth. This resulted in new “oil lakes” of different diameters and depths occurring along the pipeline confirming LLC “LUKOIL-Komi’s” inappropriate organization of remediation activities in relation to oil contaminated lands”.

The case was dismissed in 2010 without a proper explanation.

1.10. Investor Brand Risk (i.e. Reputation Risk for Responsible Investors)

The negative social and environmental consequences associated with Arctic oil and gas projects prove to be a high reputation risk for responsible investors.

For example, Natural Value Initiative (NVI) - a joint project of Fauna & Flora International, the United Nations Environment Programme Finance Initiative (UNEP FI), Nyenrode Business University and the Dutch Association of Investors for Sustainable Development (VBDO) for better understanding the biodiversity and ecosystems risks and opportunities within investment portfolios – rated Russian LUKOIL (working in the Arctic) at its lowest assessment level, as a “...company in early stages of BES management: Risk evaluation in early stages of development, activity to manage impact and dependence limited...” in the last NVIs report, “Tread Lightly Biodiversity and Ecosystem Services (BES) Risk and Opportunity Management Within the Extractive Industry”.

Another Russian oil company – Gazprom Neft (which is responsible for international trade with oil extracted by Gazprom companies and which probably will deal with oil extracted at the Priraslomnoye oilfield in the Russian Arctic off-shore) – was also rated at NVIs lowest level.
2.1 Oil Production Cost Risks

Cost of oil production in arctic offshore is irresponsibly high.

Even some Russian Arctic oil and gas promoters acknowledge that the development of hydrocarbons on the Arctic Ocean shelf will be “more difficult than to explore outer space”\(^7\). One of the factors affecting profitability of the Russian Arctic shelf oil production is critically dependant on the quality of the oil\(^7\). The quality of Russian Arctic offshore oil is quite low, as it is classified as ‘heavy’. To solve the quality problem of ‘heavy’ Arctic offshore oil, some authorities suggest exporting higher added value oil products\(^7\), but this could require significantly more capital and environmental costs (e.g. building a refinery within the Kola Peninsula).

According to the Russian Ministry of Energy, the cost of oil production in Russia as a whole in 2010 “has approached US$22 per barrel, while on some fields this number is exceeded, on all new fields it is significantly higher. This factor determines a possible sharp decrease in production due to economic factors”.\(^7\)

An example of spiraling costs in the offshore Arctic is ‘Prirazlomnaya’ – the first industrial stationary ice-resistant oil platform in the Arctic offshore – where the expected cost is already up to US$30 per barrel (according to Gazprom, the capital cost and drilling will be US$13 per barrel\(^8\) and operational costs according to Financial Corporation “Uralsib” is estimated at US$15 per barrel\(^8\)). But these indicated costs are before internalizing the massive costs associated with the critical need for greatly increased safety and environmental protocols. Yet again, even these massively increased costs can not sufficiently reduce the irresponsible level of environmental risk that would still exist.

Russian oil companies exploiting remote and increasingly expensive oil fields are already receiving negative financial...
risk assessments. For example, Sanford C. Bernstein LTD gives “…very negative outlook on Russian Oils (Underperform: LUKOIL, Rosneft, Surgutneftegas) as Russian oil production is slowing and costs rising…” 92

According to the data of the RF Ministry of Natural Resources and Environment the needed investments are huge for even a fraction of the increased infrastructure needs, including, at least 10 new ice breakers and other 52 multi-function ice-class ships (for all Russian offshore regions).45 Even the Russian government recognizes that the existing number of ships available to react to any significant oil spills is not near enough.46 For the Arctic continental shelf alone, they would need at least 162 supply and support vessels, including e.g. tug-boats, bilge and feces waters’ collectors, oil skimmers, among others.

As well, any reasonable recognition of the enormous environmental and financial risks associated with offshore Arctic oil exploration and production will begin a volatile escalation of the investment costs necessary to strengthen the current irresponsible standards for oil and gas drilling within the Arctic. But even this level of investment would not sufficiently reduce the risk of oil spills, nor sufficiently increase the ability to effectively resolve them.

Of course, the environmental and financial liability costs associated with a major offshore spill in the Arctic will make the US$ tens of billions cost of the 2010 Gulf of Mexico spill pale in comparison.

2.2 Gas Production Cost Risks.

Cost of gas production in Arctic offshore is irresponsibly high.

The financial risks associated with exploiting offshore Arctic gas are irresponsibly high. One example is that costs associated with gas extraction from the Kara Sea shelf and transportation to Central Europe may already be as much as US$ 300 per 1000 m³ (i.e. approaching the market price in Central Europe).48

Already volatile gas markets make Arctic projects financially irresponsible. According to Geography PhD Valery Lifshits (Saint Petersburg State University) and Economics PhD Ekaterina Fedorova (Non-commercial partnership “Far Eastern legal resources”): “…By 2018 they (Novatek and Gazprom) want to double their existing capacity of liquid gas production, with most orienting to the Asian market. At the same time, in the USA cheap shale gas will be exported via LNG, and Saudi Arabia and Qatar will exploit gas from their giant fields… While Gazprom and Novatek are going to try to compete via technically difficult high cost fields in the polar regions, in the Arctic ocean ignoring the dangers of transporting heavy oil tankers and LNG tankers in ice conditions, and as an apotheosis – asking for tax relief…. “ 93

Yet again, these indicated costs are before internalizing the massive costs associated with the critical need for greatly increased safety and environmental protocols. The existing production costs are so high that (according to representatives of Gazprom), conducting a complex environmental impact assessment of the Shtokman field alone, will make the project unprofitable.47

Even these massively increased costs can not sufficiently reduce the irresponsible level of environmental risk that would still exist.

2.3. Dependence on Russian Tax and Budget Policy Risks

Oil companies and potential investors’ financial calculations depend upon tax relief, which is a very unpredictable scenario with approximately 50% of Russia’s federal state budget based on oil and gas income.

Offshore Arctic oil projects will need ongoing massive tax relief, and other subsidies, to mitigate only some of the financial risks. According to the Russian Ministry of Natural Resources and Ecology offshore Arctic oil production simply would not be possible in any field without such continuing extensive subsidies.48 Russia’s increasingly arbitrary political environment will only amplify the uncertainty of these unstable financial support structures.

The burden of these tax privileges is carried via the income diversity-challenged federal budget of the Russian Federation, which is already almost 50% dependant on income from oil and gas (as of 2011).

As a result, the federal budget is very sensitive towards oil price volatility. According to the former RF Minister of Finances Alexey Kudrin, the Russian federal budget could be balanced only if the world oil price were no less than US$115 per barrel96. According to investment company “Sovlink”, the federal and regional budgets’ deficit will be around 0.7—1.5% of Russia’s GDP (around US$13 – 27 billion) with oil prices at US$100 per barrel. With an oil price of US$90 the deficit will be 2.5% GDP 97 (around US$45 billion). In comparison, the 2011 Russian federal budget was approximately US$360 billion.
It is worthwhile noting that the stated by Alexey Kudrin US$115 per barrel do not include considerable spendings necessary to meet higher safety standards in Arctic offshore. However, even these massively increased costs can not sufficiently reduce the irresponsible level of environmental risk that would still exist.

Tax relief for any oil and gas project is very sensitive to the needs of Russia’s federal budget. In 2010, only some of the subsidies for new oil fields in the Arctic and Eastern Siberia already amounted to US$7.5 billion (via tax breaks from the extraction tax and temporary exemptions from export customs duty)\(^9\) which is equivalent to 2.7% of the federal budget income. This is the cost of starting development of an additional 250 million barrels (i.e. 35 million tons) of oil annually in the new fields of the Arctic and Eastern Siberia. In comparison, the total annual amount of oil produced in Russia, as of 2010, is around 3.6 billion barrels (about 500 million tons).

100% tax relief (tax on natural resources extraction plus customs duties) for oil means a loss of a minimum US$70 million per each million barrels of oil exported from Russia (or US$0.5 billion per each million tons of oil).

As a result, the escalating financial risks for investors include depending on the budgetary decisions of an increasingly autocratic and politically unstable Russian Federation Government. While Russia implements a very expensive military modernization program, costing up to 20 trillion Rbl (US$670 billion) through 2020\(^\text{92}\), the Arctic programs will also need additional budget to build an expanded Arctic icebreakers fleet including 1 nuclear icebreaker at a cost of 27.5 billion Rbl (up to US$1 billion)\(^\text{93}\), to conduct additional exploratory drilling at a cost of 488 billion Rbl (US$16 billion)\(^\text{94}\), and to develop navigation and rescue systems in the Russian Arctic. Other recent election promises from Vladimir Putin would increase the burden on the current federal and regional budgets by 5.1 trillion Rbl\(^\text{95}\) (US$170 billion) for the next 6 years.

At the same time, non oil and gas revenues within federal and provincial budgets are getting much lower – with this income deficit reaching 10% of GDP or approximately 5 trillion Rbl (US$165 billion).\(^\text{96}\) This means that the state budgets will be even more dependent on oil and gas taxes.

As the government can’t afford to decrease taxes dramatically, it must already suspend new projects like Shtokman and/or minimize the internal rate of return (IRR) of projects like Prirazlomnaya. As of March 2012, in spite of previous promises, the Russian government has not yet decided on the tax relief for the Prirazlomnoye field.\(^\text{98}\)

Moreover the Russian tax authorities have tried to reduce the soaring budget deficit by increasing taxes for the extraction industry. In November 2011, the resources extraction tax for gas (for Gazprom) was increased from 237 Rbl to 509, 582 and 622 Rbl (US$ 8, US$ 17 and US$ 21 respectively) per 1000 m\(^3\) in 2012, 2013 and 2014, respectively.\(^\text{99}\) In this 3 years period, this tax increase will cost Gazprom Rbl 440 billion (around US$14.7 billion).

As stated by Prime Minister Vladimir Putin on 21 December 2011 at a congress of the All-Russian public organization “Business Russia”: “It is obvious for us that the ambitious goals that we set for ourselves can only be achieved within the framework of a new model of economic growth, whose driver will be not the resource complex, but a powerful high technology-based business... It must be noted that the tax load is distributed unevenly even in the production sector. For example, for machinery and equipment production it is 11.1%, for construction it is 11.3%, while for metallurgy it is 3.3%, and for coal, oil and gas it is 5%... On the whole, it is evident that the country today needs a decisive taxation maneuver. There is a need for a modern tax system. We ought to consider optimization of those taxes that are the primary determinant of high quality economic growth”\(^\text{100}\). Lightening the tax burden for non-extractive industries could require this tax gap to be satisfied by the oil and gas industry.
3.1. Endemic Corruption Risks

It is well known that the increasing political instability in Russia is driven by the suppression of democratic reforms and the rampant corruption across the governmental institutions. In the most recent 2011 Transparency International public corruption perception index, Russia occupies the unenviable position of 143 of 182 countries. This corruption greatly increases the costs of investor uncertainty and arbitrary and unpredictable financial outcomes.

The construction costs of “Prirazlomnaya” – the world’s first maritime ice-resistant stationary platform to produce Arctic off-shore oil – illustrates these risks via Australian company, BHP Petroleum, who abandoned their US$50 million investment in 1999 due to “…unjustifiably high investment risks…”.

The examples of institutional corruption within the Russian oil and gas industry are many and varied, e.g. the cost of constructing 1 km of the same specification of gas pipe line by Nord Stream on the Russian side of the border is almost three times higher than on the German side (5.8 million Euro compared to 2.1).

Forms of corruption are connected not only with the outright theft of funds and corrupted project budgeting processes. It is also an unfortunate, but very real Russian experience to have private companies “seized” via corrupt government and judicial processes as was done through Gazprom in 2005 with Shell. Officials accused a foreign group led by Shell of violating environmental rules at an oil and liquid natural gas development. Two years and a lot of arguing later, Gazprom muscled in, acquiring a 51 per cent stake in the project. Russia’s natural gas monopoly also won control of the huge Kovykt gas field in East Siberia after the former owner – a Russian
company majority held by TNK-BP – was accused of breaching the terms of its license.144

High corruption levels within Russian companies are also reflected in Transparency International’s 2011 Bribe Payers Index where Russian companies operating abroad occupy the very bottom positions. 154

3.2. Oil Field Assessments Risks

Oil reserves within the Russian Arctic offshore are very unclear. The quality of current estimates is unknown.

The US Geological Survey has estimated that the Barents Basin contains 9.5 billion barrels (1.3 billion tons) of oil, but Russian geological estimates indicate existing reserves of about 3 billion barrels (400 million tons) for the same basin. Of these, only a quarter – 0.7 billion barrels (100 million tons) – are well proved (Russian classification categories A+B+C1).

In comparison, total oil reserves in Russia are approximately 70 billion barrels (10 billion tons).106

According to official plans for the coming decade, the oil produced from the Russian Arctic offshore will not start contributing the first few percentage points of total Russian oil production for years. At its peak, the annual oil production from the Arctic offshore shelf is expected to contribute 100 million barrels (13.5 million tons) in 2025107, while in comparison, total 2010 Russian oil production is 3.6 billion barrels (about 500 million tons), while the existing potential additional annual capacity of oil production within the OPEC states is around 2.2 billion barrels (about 300 million tons).108

Risks associated with the quantity and quality of the reserves are well illustrated by the example from LUKOIL’s South Khyl’chuyu oil field in the Nenets Autonomous Region (a land-based Arctic oil field a few dozen km from the Arctic coast and approximately 100 km from the Pribrazlomnoe oil field under exploration by Gazprom Nefte Shelf, LLC). LUKOIL’s production in the Russian Federation was around 655 million barrels (about 90 million tons) in 2010 – the second largest in Russia.109 The South Khyl’chuyu field was expected to comprise up to 10% of LUKOIL’s production in Russia, but in 2010, the water vs. oil ratio in the South Khyl’chuyu field was acknowledged at 31.4% rather than the 2.1% stated in 2009.110 In their 4th quarter 2009 report, Conoco Phillips (who at that time, owned 20.6% of LUKOIL), stated that during this period the company noted a share value loss of US$575 million. According to Conoco Phillips, one of the reasons for this was the decrease in the current value of assets connected to the lower prospective of resources at the South Khyl’chuyu field.111 In 2011, Conoco Phillips left LUKOIL, due mainly to the drastically decreased production at the South Khyl’chuyu field112.

Cairn Energy’s exploratory drilling west of Greenland in 2011 didn’t find sufficient oil to start production.113 Cairn lost US$600 million and their share price as of March 2012114 remains down by approximately 30% (as compared to their beginning 2011 level).115

3.3. Extended Time Gap Between Licensing and Production

Legal limitations of licensing protocols for oil and gas in Russia’s Arctic offshore, and the extended time needed for exploration and infrastructure development lead to extremely long time periods between licensing and production.

Due to existing Russian legislation (as of April, 2012), only Gazprom and Rosneft can own exploration and production licenses within Russia’s Arctic offshore. According to the Russian Ministry of Natural Resources and Environment (via a draft of the State program for the survey of the continental shelf and development of its mineral resources, issued at the end of 2011) it will take 18 years116 and a tremendous investment in order to draw any substantial conclusions about the economic viability of both oil and gas in the Russian Arctic offshore.

Reducing this timeline can only be possible by escalating the already unacceptably high environmental and economic risks. However, these time reductions will inevitably lead to risk of putting into service insufficiently explored and prepared oil fields. 117
3.4. Technical and Safety Risks Associated with Insufficient Quality

The quality of carrying out dangerous projects in Russia leaves much to be desired.

Unfortunately, 2011 was a year full of tragic events and incidents showing insufficient quality of work within the Arctic and close to Arctic regions.

19 October, 2011. The Prirazlomnaya platform was transported to the drilling site before it was completed and construction had to be completed at the drilling location. Soon after the platform reached the drilling point, the platform's rescue gangway ladder (by which the crew could be evacuated onto rescue vessels) was washed away by a storm.¹⁹

15 December, 2011. Fire on the nuclear icebreaker Vaigach (the reactor was not damaged, but 2 people were killed).¹⁶

18 December, 2011. Loss of the “Kolskaya” oil rig in the Sea of Okhotsk during towing operations, 53 out of 67 members of the rig crew and personnel died. Probable cause of the “Kol'skaya” rig's sinking was the low level of preparedness for towing operation in stormy conditions. According to journalists’ investigations, the rig itself had cracks in the hull before towing commenced and it was unclear whether the rig was in any way safe to move at all during the winter.²⁰ It is typical that Kol'skaya was conducting exploratory drilling without both the State Expertise and the State Environment Expertise, which are both obligatory.

Additional examples reveal an ongoing inability to work responsibly on Arctic projects:

In 2007, the Vyborg shipyard won a tender from Gazprom on two semisubmersible rigs. This Russian shipyard had neither the necessary experience nor the required capacity to implement this construction. Almost all the work was subsequently done by Samsung.¹¹

Russia’s technical and safety issues are not unique, as the difficult process of sealing an offshore oil well with cement is suspected as a major contributor to the 2010 Gulf of Mexico oil spill disaster. And this process has failed dozens of times in the past, according to an Associated Press investigation.¹²


6 Ibid.


MOD=AJPERES&ACHEID=ef56e80447195d5a5s77e5af753c8a7e


27 Ibid.


29 Bellona-Murmansk. 2007. Sea is More Valuable than Oil. Murmansk.

30 Ibid.


39 Ibid.


43 Ibid.


45 Ibid.


52 Ibid.

53 Ibid.

54 Ibid.


56 Ibid.


62 http://www.youtube.com/profile?user=GreenpeaceRussia


64 Ibid


68 We hope that Sakhalin citizens will support us, we count on success. 1991. Soviet Sakhalin. 20th August 1991.


71 http://premier.gov.ru/visits/ru/12528/events/12540/

made at a meeting with environmental NGOs 15th November 2011, Moscow: “If the company is rich and willing to explore anything more – let it go, but, first of all, the project must be cost-effective.” On question regarding the need to have a comprehensive ornithological assessment of the Shtokman project.

88 RF Ministry of Natural Resources and Environment. 2011. Draft of the State program for investigation of the continental shelf and development of its mineral resources.


94 State program for investigation of the continental shelf and development of its mineral resources. Draft. Moscow 2011.


108 Clint O. 2011. European & Russian Oil & Gas, Sanford C. Bernstein LTD, November 2011


115 Ibid.


117 Ibid.


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