

To the Ministry of Finance

Recommendation of 16 February 2009

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1 Introduction

At its meeting on June 4, 2008, the Council on Ethics for the *Government Pension Fund – Global* decided to assess whether investments in the company MMC Norilsk Nickel¹ may imply a risk of the Fund contributing to severe environmental degradation, as per point 4.4 of the Fund's Ethical Guidelines. As of December 2008, the Norwegian Government Pension Fund – Global had investments in the company valued at around 312 million NOK.

The Russian metals and mining company Norilsk Nickel, along with its subsidiaries, is one of the world's largest producers of nickel and palladium. It has production facilities in six countries, with its main production sites on the Kola and Taimyr Peninsulas in the north of Russia. The Council has reviewed the company's operations at the company's Polar Division on the Taimyr Peninsula.

For many years, Norilsk Nickel's Polar Division has emitted large amounts of sulphur dioxide, nickel and heavy metals, inter alia, copper. Yearly atmospheric emissions of sulphur dioxide are around 2,000,000 tons, while emissions of heavy metals such as nickel and copper are around 450 tons and 500 tons respectively. Emissions have caused death or significant damage to vegetation up to 200km from the operations. Atmospheric emissions have also caused the local population significant health problems. Respiratory diseases and various forms of cancer are more prevalent here than in other regions in Russia.

In accordance with point 4.5 of the Guidelines, the Council has contacted Norilsk Nickel through Norges Bank requesting the company to comment on the draft recommendation for exclusion. In their reply, the company presented its 2004-2007 results from its environmental program and highlighted, inter alia, that the company is aiming to fully reach the 2015 targets of its action plan on decreasing emissions of polluting substances. Norilsk Nickel's response did not specifically address the Council's questions relating to measures pertaining to the cleaning of heavy metals in soil/water body sediment, nor did it clarify which measures it will implement in order to achieve its goal of reducing SO₂ emission levels by 70 percent by 2010.

It is the Council's view that the scale of environmental damage is extensive, long-term and partly irreversible, as well as causing serious damage to human health. The damage is a result of excessive emissions taking place over a long period of time. Even though the company has implemented measures in recent years to reduce metal emissions, current emission levels remain high. Additionally, SO₂ emission levels are nearly unchanged. In the Council's opinion, it seems that the company fails to comply with national environmental regulations and, moreover, does not seem to plan to clean up the affected areas. The company's plans to significantly reduce emissions have so far not been implemented and, as a result of this, environmental deterioration continues. The Council finds it unlikely that the company's plans will be implemented in the near future. The Council therefore recognises that there exists an unacceptable risk that harmful emissions from Norilsk Nickel, and thus the widespread contamination of soil, water and the atmosphere, will continue in the future.

The Council has reached the conclusion that the Ethical Guidelines, point 4.4, second clause, provide a basis for recommending the exclusion of MMC Norilsk Nickel from the *Government Pension Fund – Global* due to an unacceptable risk of complicity in current and future severe environmental damage

¹ Hereafter, Norilsk Nickel.

2 Sources

This recommendation is based on information gathered from investigations and statements made by Russian authorities, scientific studies conducted for the United Nations and World Bank, and scientific journals, both Russian and international. The Council has had access to reports from Russian governmental bodies and authorities, paying particular attention to investigations and reports conducted by the Russian Federal Service of Supervision of Natural Resources (*Rosprirodnadzor*) of the Russian Ministry of Natural Resources.

Other sources which have been consulted include scientific and technical assessments made by research institutes, government authorities, and organisations, particularly the Arctic Monitoring Assessment Program (AMAP),² the Russian Academy of Sciences³ and the Blacksmith Institute.⁴

Moreover, the Council has conducted its own studies in order to further clarify the case. The Bellona Foundation⁵ was commissioned to collect information pertaining to emissions of pollutants into the air and water at Norilsk, as well information on the company's current emissions reduction strategy.⁶ A Russian journalist was commissioned to conduct a survey of the local, regional and national press in Russia in the last three years, identifying stories concerning the company and statements made by company employees and Russian officials pertaining to environmental and health issues linked to Norilsk Nickel.

These sources are referred to in footnotes throughout the document.

3 The Council's Considerations

The Council on Ethics decided to assess Norilsk Nickel at a meeting on June 4th, 2008, shortly after the company was included in the Fund's portfolio, as the Council was aware of how contaminating the company's operations in Russia are considered to be.

² The Arctic Monitoring and Assessment Programme is one of five Working Groups of the Arctic Council. The primary function of AMAP is to provide "reliable and sufficient information on the status of, and threats to, the Arctic environment, and providing scientific advice on actions to be taken in order to support Arctic governments in their efforts to take remedial and preventive actions relating to contaminants"...AMAP was established in 1991. AMAP has produced a series of science-based assessments of the pollution status of the Arctic. See: <http://www.amap.no/>

³ The Russian Academy of Sciences (RAS) is a self-governed, non-commercial organization (institution). Its principle aim is "the organization and performance of fundamental research for the purpose of obtaining further knowledge of the natural, social and human development principles that promote technological, economic, social and cultural development in Russia". See: <http://www.ras.ru/about.aspx>

⁴ The Blacksmith Institute is an independent, American organization supporting pollution-related environmental projects with particular interest in point-source pollutants that have significantly adverse health effects on local populations and that are not currently the focus of major clean-up efforts. One of its main projects is the *Polluted Places Initiative*, which identifies polluted sites throughout the world. See; <http://www.blacksmithinstitute.org/>

⁵ The Bellona Foundation is an international non-profit organisations working on numerous environmental issues such as ,nuclear contamination in Russia and climate change; <http://www.bellona.org/>

⁶ Bellona Report, Commissioned by Council on Ethics (herein "Bellona Report"), October, 2008, on file with the Council.

The Blacksmith Institute has described the area around Norilsk Nickel's operations on the Taimyr Peninsula as one of the ten most polluted places on earth.⁷ Russian environmental authorities have reported that the company's emissions into the air and water grossly exceed national permissible discharge and emissions standards.⁸

The Council's assessment concentrates on the company's Polar Division operations around the city of Norilsk, on the Taimyr Peninsula. The Council is aware that there have been criticisms in regard to the Kola Peninsula operations on the northern border of Norway, claiming that the company has been causing serious environmental damage over a long period of time without taking measures to reduce emissions from its smelter operations. The Council has not looked into these allegations in detail.

With reference to the Ethical Guidelines, point 4.4, second clause, the Council has considered whether the Fund's investment in Norilsk Nickel constitutes an unacceptable risk of the Fund contributing to severe environmental damage.⁹

In previous recommendations regarding environmental damage, the Council has put particular emphasis on whether:

- the damage is significant;
- the damage causes irreversible or long-term effects;
- the damage has considerable negative impact on human life and health;
- the damage is a result of violations of national laws or international norms;
- the company has neglected to act in order to prevent the damage;
- the company has not implemented adequate measures to rectify the damage;
- it is probable that the company's unacceptable practice will continue.

Based on an overall evaluation of the points listed above, the Council carries out concrete assessments of what constitutes *serious environmental damage* in each individual case.

It is *existing* and *future* violations that are covered by the Guidelines. This implies that the Council must assess whether there is a risk that the company's unacceptable practice will continue in the future. The company's previous actions may give an indication as to how it will behave in the future, and thus form a basis for the assessment of whether there is an *unacceptable risk* that unethical actions will occur henceforth.

⁷ Blacksmith Institute, "Top 10 Most Polluted Places 2007," www.worstpolluted.org/projects_reports/display/43

⁸ Inspection report by the Federal Service for Supervision in the Area of Utilization of Natural Resources (*Rosprirodnadzor*) under the Russian Ministry of Natural Resources, on file with the Council.

⁹ In previous recommendations, the Council has elaborated on – and specified – the criteria of *severe environmental damage*. See recommendations regarding Freeport McMoRan Inc., DRD Gold Ltd. and Vedanta Plc., available at www.etikkradet.no

4 About Norilsk Nickel

Norilsk Nickel is a nickel and palladium mining and smelting operator which is also active in gold, platinum, copper and cobalt. The company's operations cover the entire production chain, from the extraction of ores to the production of metals.¹⁰

The company is one of the world's largest producers of nickel and palladium, as well as Russia's leading gold producer. It is also ranked among the top four world platinum producers and among the top ten world copper producers.¹¹ Domestically, Norilsk Nickel holds close to a 96 percent market share of nickel, 55 percent of copper and 95 percent of cobalt production; the company is one of the leaders in the national economy, accounting for some 4.3 percent of Russian exports.¹²

According to the company's annual report, total revenue for the company in 2007 was 17.1 billion USD and gross profit 5.3 billion USD.¹³ As of May 2008, there were two key shareholders in the company: Mr. Vladimir Potanin, with around 30 percent share capital, and United Company RUSAL, with about 25 percent of the company's share capital.

Norilsk Nickel has production facilities in six countries: Russia, Finland, Australia, Botswana, South Africa, and the United States. In its mining branch, the company has 6 wholly-owned and 5 majority-owned subsidiaries world-wide, while the rest of the company's business segments include some 24 wholly-owned and 14 majority-owned subsidiaries.¹⁴

The company's most important production sites are in Russia: the Polar Division,¹⁵ located on the Taimyr Peninsula in the Krasnoyarsk region of Siberia, and the OJSC Kola Mining and Metallurgical Company,¹⁶ located in the Murmansk region on the Kola Peninsula.

¹⁰ See Norilsk Nickel's company website; <http://www.nornik.ru/en/about/> and 2007 MMC Norilsk Nickel Annual Report, "Management Structure," p.27; http://www.nornik.ru/upload/report2007_eng.pdf

¹¹ See Norilsk Nickel's company website; <http://www.nornik.ru/en/about/> and <http://www.nornik.ru/en/investor/fact/>

¹² Sokhatskaya, Julia, "Norilsk Nickel," RussiaProfile.org, February 21, 2006; <http://www.russiaprofile.org/resources/business/russiancompanies/norilsk.wbp>

¹³ Norilsk Nickel 2007 Annual Report, p. 211. see http://www.nornik.ru/upload/editor_files/file1082.pdf

¹⁴ By year end December 31, 2007. MMC Norilsk Nickel Annual Report, "Investments in significant subsidiaries and associates," p.318-319 and "Business combinations: Acquisitions of controlling interest in subsidiaries," p. 267; http://www.nornik.ru/upload/report2007_eng.pdf

¹⁵ Directly owned and operated by MMC Norilsk Nickel.

¹⁶ Wholly owned by MMC Norilsk Nickel.

Figure 1: Norilsk Nickel's Geographical Location¹⁷



About Norilsk Nickel's Polar Division

Norilsk Nickel's Polar Division's operations are based on the sulphide copper-nickel ore reserves mined at *Oktyabrsky*, *Talnakh*, and *Norilsk-1* deposits in the Norilsk area.

In 2006, the total production of copper and nickel at the Polar Division was 351,000 tons and 122,000 tons respectively.¹⁸ Ores are enriched at two enrichment plants, where they are processed to produce nickel, copper, and pyrrhotite concentrates. The concentrates are then processed at the Polar Division's four metallurgical plants in the Norilsk region (see Figure 2).

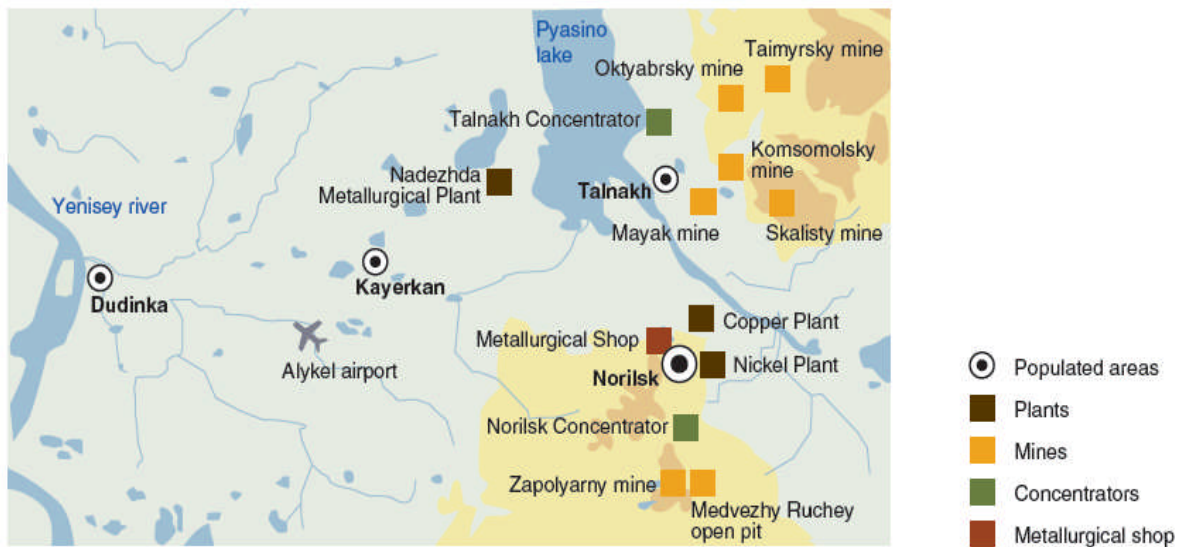
There are two cities in the direct vicinity of the operations: *Norilsk* and *Talnakh*. Around 200,000 people live in close vicinity to the smelters.¹⁹

¹⁷ Myers, Lee Steven, "Siberians Tell Moscow: Like It or Not, It's Home," New York Times, Jan. 28, 2004; <http://www.nytimes.com/2004/01/28/international/europe/28RUSS.html?pagewanted=1&ei=5007&en=38095807ecefed69&ex=1390626000&partner=USERLANDn>

¹⁸ Company website, "Polar Division;" http://www.nornik.ru/en/our_products/polar_divisions/

¹⁹ Of these, some 135,000 live in the city of Norilsk, 60,000 in the city of Talnakh, and a further 30,000 in the city of Kayerkan (20 km away from Norilsk). The near-by port city of Dudinka, where cargo from Norilsk Nickel is processed and sent, has a population of ca. 25,000. Based on figures from most recent Russian Census; <http://www.perepis2002.ru/index.html?id=87>

Figure 2: Norilsk Nickel's operations in the Norilsk area²⁰



5 Environmental damage and health impacts

Norilsk is one of the most polluted cities in Russia.²¹ Increased levels of air pollution above the maximum allowable levels are registered in the city of Norilsk 350 days out of each year.²² In around 80 percent of cases, levels of harmful substances registered in the atmosphere are five times over the maximum allowable concentrations (MAC) in Russia,²³ and in 20 percent of cases, levels of pollutants in the air reach an equivalent of 10 MAC values or greater.²⁴ Emissions from Norilsk Nickel's operations in the Norilsk area have a severe impact on the environment and health of people living in the area.

²⁰ 2007 MMC Norilsk Nickel Annual Report, p.89; http://www.nornik.ru/upload/report2007_eng.pdf

²¹ Revich, B., "Heated Spots" In the Chemical Pollution or the Surrounding Environment and Health in the Population of Russia,," The Public Chamber of the Russian Federation - The Committee of the Public Chamber RF for Ecological Policy and Defense of the Surrounding Environment, Editor, Zakharov, B.M. Moscow, 2007, p.72. Translation from Russian, on file with the Council.

²² "Norilsk and its Environmental Concerns in 2007 and 2008," Open letter to the Russian parliament, the State Duma, and officials within federal environmental protection agencies signed by 15,000 residents of Norilsk. On file with the Council.

²³ In Russia the *Rospotrebnadzor*, or the Russian Federal Service for Supervision within Protection of Consumers' Rights and Human Welfare, is responsible for determining the maximum allowable concentration (MAC) level for various industrial pollutants. It is the responsibility of another body, *Rosprirodnadzor*, or the Federal Service for Supervision in the Area of Utilization of Natural Resources, to ensure compliance with MAC provisions.

²⁴ See footnote 22, and footnote 6, Bellona Report, "Pollution Data," p.4 -5.

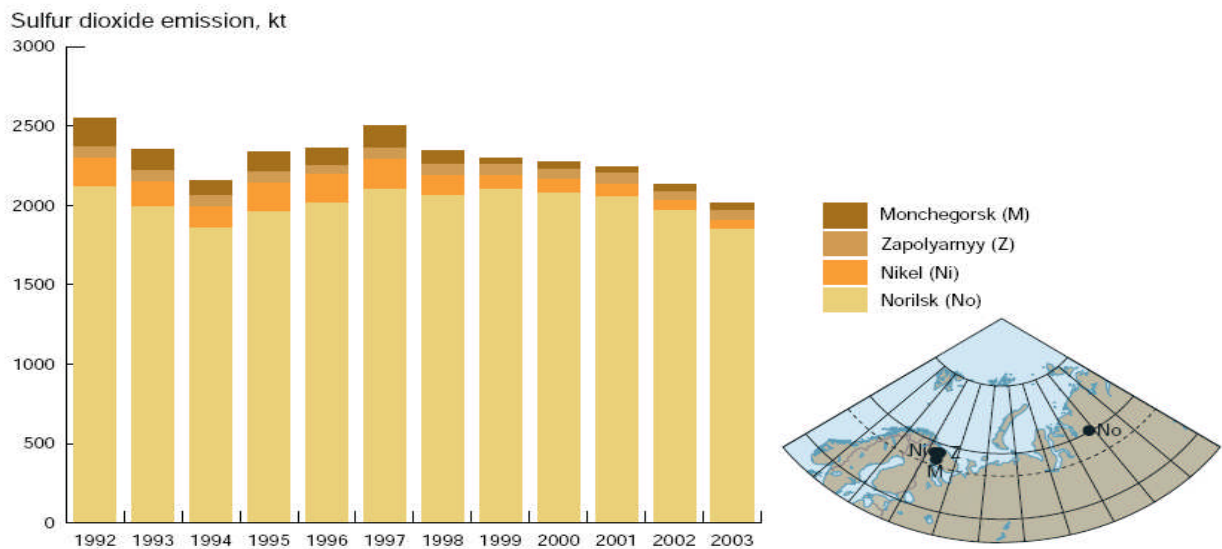
5.1 Atmospheric Pollution

SO₂

The ore reserves found at mines in the Taimyr Peninsula are very rich in sulphur. Processing the ores in the smelter works creates, as a by-product, large amounts of atmospheric emissions including sulphur dioxide (SO₂) and heavy metals.

The figure below shows SO₂ emissions for the company from 1992 to 2003. Emissions have decreased somewhat since the late 1990's to 2003. Nevertheless, they seem to have stabilised in recent years to 2003 levels.

Figure 3: Calculated emissions of SO₂ (thousands of tons) 1992-2003²⁵



For the last five years, the company has reported SO₂ emissions of around 2,000,000 tons a year.²⁶ The most recent figures indicate some 1,940,000 tons of emissions a year in 2006 and 2007.²⁷ Included in this figure is a reduction of 60,900 tons (3 percent) of SO₂ emissions in the period from 2004 to 2007.²⁸ Emission of SO₂ leads to acid rain; levels of sulphuric content in atmospheric precipitation in the Norilsk area are amongst the highest in Russia.²⁹

²⁵ Note: Monchegorsk (M), Zapolyarnyy (Z) and Nikel (Ni) are part of the operations at Kola, while Norilsk (NO) refers to the Polar Division operations. Arctic Monitoring and Assessment Programme (AMAP), Arctic Pollution 2006: Acidification and Arctic Haze, AMAP, Oslo, 2006, p.3.

²⁶ Norilsk Nickel 2007 Social Report, Annex 4, available at <http://www.nornik.ru/en/investor/report/social/>

²⁷ Norilsk Nickel 2007 Social Report, Annex 4.

²⁸ Norilsk company website, "MMC Norilsk Nickel environmental performance in 2007,"

<http://www.nornik.ru/en/press/news/2290/>

²⁹ See footnote 22 and Bellona Report, "Pollution Data," p.4 -5.

The amount of SO₂ emissions by the company is significant in comparison to international emission levels. In 2005, emissions of SO₂ from Norilsk Nickel were 12 times greater than that of mineral and metal production in all 27 EU countries combined.³⁰

The company is required to track emission levels and reduce or even stop plant operations whenever the concentration of pollutants exceeds the maximum permitted levels. This is particularly the case on days where there is air stagnation, or when winds are blowing toward the city of Norilsk.³¹ In 2007 the company reported that “*the duration of periods of contamination that exceeded the maximum permissible concentration five times or more was reduced by 20 percent*”.³² This means that even though the duration of the periods of contamination exceeding maximum permissible concentration was reduced in 2006, periods of excessive contamination none-the-less seem to continue. The company does not report how long these periods lasted, nor how often they occurred.

Metals

Emissions from smelting operations contain large quantities of nickel and copper, while cobalt and vanadium also contribute significantly to contamination by metals.³³ Metals are released into the atmosphere as solid substances in the form of dust or particulates.

According to the company, the amount of solid substances emitted into the atmosphere in 2007 was 22,280 tons, of which roughly half originated from its Polar Division.³⁴ The company does not specify what percentage of these are metals, nor does it mention which metals are emitted.

Based on the company’s Social Report from 2007, emissions into the air by the Polar Division can nevertheless be estimated at a total of around 450 tons of nickel oxide, 500 tons of copper oxide, and 50 tons of cobalt .³⁵ These figures however do not seem to agree with independent measurements conducted by non-company sources. According to the AMAP, the area around Norilsk is one of the largest point sources of certain heavy metals in the northern Arctic. AMAP has assessed annual nickel emissions to be approximately 1300 tons, and copper emissions to amount to 2800 tons annually.³⁶ The Council is unaware of other independent figures for atmospheric emissions.

Although most of the heavy metal emissions are deposited close to their smelter source, these emissions still constitute a major part of circumpolar contamination. Prevailing winds over the Arctic blow from Eurasia to North America, and models show that Eurasia contributes to

³⁰ According to official figures from the European Environment Agency, EU emissions were approximately 162,159 tons in 2005. European Environment Agency, “EEA air pollutant emissions data viewer (Long Rang Transboundary Air Pollution Convention) - comparing countries;” see: <http://www.eea.europa.eu/>

³¹ The most unfavourable conditions for the build-up of pollutants in the atmosphere occur during winter time, see footnote 21.

³² Norilsk Nickel 2007: Social Report, p.99.

³³ AMAP 2002: Arctic Pollution report, p 56.

³⁴ Norilsk 2007 Social Report, Annex 4, p.162.

³⁵ See footnote 34, p. 99 and Norilsk company website, “Protecting environment and conserving natural resources;” <http://www.nornik.ru/en/development/protectionwildlife/>. In its 2007 Social Report, the company writes that “aggregate emissions of solid substances by the Polar Division after purification fell 5.6% in 2007 compared to 2006; including emission of nickel oxide – by 11.7 tons (by 2.68%), of copper oxide – by 19.16 tons (by 3.89 %), cobalt oxide – by 7.87 tons (19.42%).”

³⁶ AMAP 2006: Acidifying pollutants, Arctic Haze, and Acidification in the Arctic, Chapter 5.1.2: Acidification and the acidity status of soils in the Norilsk area,” AMAP, Oslo, 2006, p.48.

more than half of the air pollution measured in the Arctic. The Russian sources, including the smelter complex on the Kola Peninsula and the industries in Norilsk, are the most important. This is partly because they are situated far north, within the Arctic air mass, and partly because the strong Siberian high-pressure system drives air northward during the winter.³⁷ Emissions from industrial operations in the Urals and Norilsk constitute the largest part of air concentrations of metals over Alaska and northern Canada.³⁸

5.2 Discharges into water

Norilsk Nickel discharges significant amounts of copper and nickel, as well as cobalt, vanadium and other metals into water bodies in the Norilsk region,³⁹ amongst them the *Norili/Pyasinskaya* water system⁴⁰ and Lake Pyasino.⁴¹ Norilsk Nickel operates 86 wastewater discharging outlets, of which 73 are operated with no cleanup systems (as per 2007).⁴² The company states that the wastewater discharged to the water bodies is based on permits provided by the environmental legislation.⁴³

Norilsk Nickel reports that in 2007, total discharges of pollutants to water for the entire company equalled 159,770 tons, of which 99,000 tons were from the Polar Division.⁴⁴ However the company does not specify which pollutants are constituted in this measurement, making it difficult to assess the provided figures.

2007 Inspections of Norilsk Nickel by the Russian environmental agency

In early 2007, some 12,000 Norilsk residents sent an appeal to members of the Russian parliament, the State Duma, and officials within federal environmental protection agencies to address the environmental situation at Norilsk.⁴⁵ In the open letter, the residents voiced their concern about the state of the environment and the health of the people living in the vicinity of Norilsk. Following the appeal, the Polar Division underwent an inspection which was carried out by the Russian environmental agency – *Rosprirodnadzor* between January and August 2007.⁴⁶

Among other things, inspectors investigated whether Norilsk Nickel was in compliance with environmental requirements on the use of water and the protection of surface water bodies. Inspections were unscheduled and concentrated on the three largest metallurgical enterprises. An independent laboratory was commissioned to take wastewater samples as well as photographic/video records throughout the entire duration of the inspection. Tests of samples

³⁷ AMAP 1997: Arctic Pollution Issues: A State of the Arctic Environmental Report, “Heavy Metals,” p. 97-98. see <http://www.amap.no/>

³⁸ See footnote 37, p. 109.

³⁹ Bellona Report, p.5.

⁴⁰ Norilsk Nickel 2007 Social Report, p.100.

⁴¹ Several rivers fall into Lake Pyasino, including the *Ambarnaya*, *Koyeva*, *Bucheko-Yurekh*, *Shchuchya* and *Samoyedskaya Rechka*. The lake’s main tribute is the river *Norilskaya* (Talaya), which gathers its waters from across a large mountainous area that has a number of lakes as well. The river *Pyasina* flows out of the northern part of Lake Pyasino, from where it runs north and empties into the Pyasinsky Gulf of the Kara Sea.

⁴² Inspections report by the Federal Service for Supervision in the Area of Utilization of Natural Resources (*Rosprirodnadzor*), 2007, on file with the Council, and Bellona Report. p.11.

⁴³ Norilsk Nickel 2007 Social Report, p.100.

⁴⁴ See footnote 34, Appendix 4, p.162.

⁴⁵ Open Letter form the residents of Norilsk 2007, see footnote 22.

⁴⁶ Inspections report by the Federal Service for Supervision in the Area of Utilization of Natural Resources (*Rosprirodnadzor*) 2007, .

taken during the inspection showed that concentrations of pollutants found in wastewaters dumped at various discharge outlets at all three enterprises were consistently over the allowable limits, with some measurements of copper and nickel found to be 2,400 times and 630 times over the permissible levels, respectively.⁴⁷ The investigations also found wastewater discharges being made without permission and pollution abatement programs not being complied with. Based on the result of these findings, the supervising agency calculated the environmental costs resulting from the violations of the water regulations.⁴⁸ A list of specific violations of the Water Code of the Russian Federation was also included in the agency's final report.⁴⁹ The agency concluded that the illegal discharge of unprocessed waste water harms the water bodies.

Norilsk Nickel disagreed with the Russian environmental agency's results and sent substantiated objections to the agency regarding its report.⁵⁰ Norilsk went on to say that it is modernizing existing industrial sites - most of which were built in the 1930s and 1940s with no regard for environmental safety - adding, "*the environmental programme is timed for 2004-2015 and will cost an estimated 36 billion rubles*".⁵¹

Based on its findings, the environmental agency filed a lawsuit against Norilsk Nickel with the Arbitration Tribunal of the Krasnoyarsk Krai region in early 2008.⁵² The suit sought compensation to the amount of 4.3 billion rubles for environmental damages caused by the illegal disposal of wastewater by the company. Also raised in the suit was that the company had not been acting in compliance with a ruling by the court of *Novokuznetsk*, issued January 18, 2006, ordering a cessation of the discharge of unprocessed wastewater into the rivers *Aba* and *Konobenikha*. The tribunal turned down the environmental agency's suit in June of 2008.⁵³ Another suit regarding environmental damage has been filed with the Prosecutor General of the Russian Federation by Greenpeace; this suit is still pending.

⁴⁷ See footnote 46.

⁴⁸ In accordance with a protocol called "Methods for assessing damages incurred to water bodies as a result of violations of the legislation on water use," an assessment was made by *Rosprirodnadzor* as to the damage incurred to the water bodies as a result of discharges of pollutants over allowable limits at the for all three sites during the period of inspections in 2007. Damage to water bodies was calculated to be RUB 2,7 billion (ca. EUR 78 million). The calculation pertained to the seven sites (of 86) assessed during the period between January and August 2007.

⁴⁹ The inspection report lists the following violations of sections of the Water Code of the Russian Federation No 74-FZ, issued June 3, 2006 (revision of the Federal Law N201-03, issued December 4, 2006): Article 35, Section 4.; Developing and Deploying the Norms for the Maximum Allowable Impact on Water Bodies and Water Quality Indices of Water Bodies; Article 39, Section 2, Subsection 1.5.; Rights and Responsibilities of Proprietors of Water Bodies and Water Consumers Utilizing Water Bodies; Article 56, Section 6.; Preservation of Water Bodies from Pollution and Soiling; Article 60, Section 1, Section 5, Subsection 1: Preservation of Water Bodies during Design, Deployment, Construction, Reconstruction, Launch, and Operation of Water Utilization and Supply Systems.

⁵⁰ New Europe Weekly, "*Norilsk disputes environmental watchdog` findings,*", nr. 747, 15.sept. 2007; <http://www.neurope.eu/articles/77731.php>

⁵¹ See footnote 50. In its letter, Norilsk Nickel describes a series of measures that the company has implemented in order to reduce discharges to water between 2005 and 2007. According to the letter, these measures seem to have been implemented before the environmental agency's inspection. See Norilsk letter to the Council, 18.12.08, on file with the Council.

⁵² Lawsuit on file with the Council.

⁵³ While not arguing on the fact of illegal dumping of wastewater and polluting the water bodies, the Arbitration Tribunal of the Krasnoyarsk Krai ruled against the environmental agency - *Rosprirodnadzor*, finding that the auditing carried out by *Rosprirodnadzor* was illegitimate, since it failed to meet the scheduled auditing deadlines.

5.3 Environmental Impacts

The combined effect of the huge emissions of SO₂ and heavy metals has a severe and long-term impact on the environment around Norilsk, affecting vegetation, soil, lakes, rivers, flora and fauna.⁵⁴

AMAP, which has been monitoring pollutants in the Arctic since 1991, has reported for many years on how the deposition of copper and nickel, in combination with acidifying pollutants, has severely damaged the soil and ground vegetation, resulting in an industrial desert around the smelter.⁵⁵

The damaged areas around the smelters can be divided into three zones (see figure 2 below).⁵⁶ First, there is the forest-death zone where vegetation is dead, where there is hardly any fauna at all, soil microbial activity is minimal and the organic layer of soil is absent. The forest-death zone extends for 8 km or more downwind from Norilsk. The town of Norilsk is located within this zone.

Beyond the forest death zone is the visible-damage zone, which stretches up to 200 km around Norilsk. Here the vegetation is clearly affected and unhealthy. Trees defoliate, experience reduced growth, damaged needles and abnormal growth. There are no lichens growing on the trees; a clear indication of high pollution levels. The soil properties have clearly been changed and soil fertility has decreased as a result of high inputs of nickel and copper. The long-term cumulative effects of these impacts on the ecosystem are not fully understood.

Research shows that between 90-95 per cent of the heavy metals emitted from the smelters appear to stay within this zone. Elevated levels of lead and copper from the smelter complex show up in a zone up to approximately 200 km from the source. Copper concentrations in the mosses have been found to be around 100 times higher than in an area further north of Norilsk.⁵⁷ Elevated levels of heavy metals have been found in surface soil and lake sediments.⁵⁸

⁵⁴ AMAP 2006: Arctic Pollution 2006, p 41.

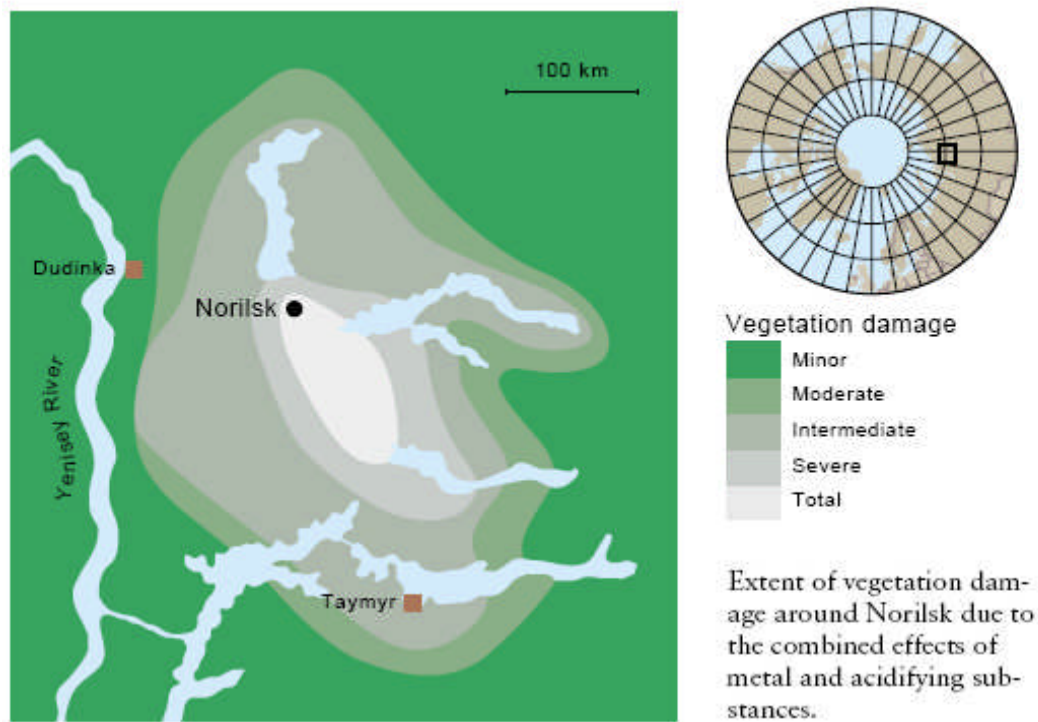
⁵⁵ AMAP 1997: Arctic Pollution Issues: A State of the Arctic Environmental Report, p 109. Average yearly depositions of sulphur for instance, are estimated to 450-4000 kg/km².

⁵⁶ AMAP 2006: Arctic Pollution 2006, p 57.

⁵⁷ See footnote 55, p. 102.

⁵⁸ Allen-Gil, S.M., J. Ford, B.K. Lasora, M. Monetti, T. Vlasova, D.H. Landers 2003: Heavy metal contamination in the Taimyr Peninsula, Siberian Arctic; in *the Science of the Total Environment* 301(2003), pp 119-138, and Blais, J.M., K. E. Duff, T.E. Laing, J.P. Smol 1999: Regional contamination in lakes from the Norilsk region in Siberia, Russia, in *Water, Air and Soil Pollution* 110 (1999), pp 389-404.

Figure 4: Vegetation Damage Norilsk⁵⁹



In the third zone, an invisible damage zone, impacts are less obvious but can be observed through changes in the vegetation. This zone extends some 300 km around Norilsk.⁶⁰ Researchers are also concerned that the area affected by metals may be expanding. *“The accumulations of heavy metals are a significant problem, and their presence is likely to remain a barrier to recovery even if inputs from smelter emissions cease.”*⁶¹

As described above, the pollutants from the Norilsk smelters have clearly damaged terrestrial and aquatic ecosystems, also in the long-term. Regeneration of plants and trees is affected by heavy metals, which for instance prevent seedlings from growing. Birds and mammals are likely to avoid the most damaged zones, due to lack of food. In the visible-damage zone, the animals may survive, but their heavy-metal levels will increase over time, possibly leading to toxic effects.⁶²

Pollutants discharged into the water and atmosphere also have adverse impacts on water bodies and rivers.⁶³ According to a report compiled by the State Inspection of the regional Yenisei River Board for Fishery Management and Protection of Fish Reserves, local rivers are no longer usable for fishery due to the damage they have sustained from pollution.⁶⁴ The

⁵⁹ AMAP 2002: Arctic Pollution 2002, p 56-58.

⁶⁰ At Norilsk’s smelters at Nikel and Monchegorsk on the Kola peninsula the observed impacts are mainly changes in the physiological functioning and microscopic structure of plant tissues. It is likely that similar effects occur in the Norilsk area as well. See footnote 59, p. 56

⁶¹ See footnote 59, p 56

⁶² See footnote 59, p 56.

⁶³ AMAP 1997: Arctic Pollution Issues: A State of the Arctic Environmental Report, “Heavy Metals,” p. 98-99.

⁶⁴ The State Inspection of the region Yenisei River Board for Fishery Management and Protection of Fish Reserves, see Bellona Report, p.5.

damage also has negative long-term effects. Wetland ecosystems can accumulate large loads of heavy metals and serve as sources to rivers, having a long-term impact on the ecosystem.⁶⁵

According to AMAP, the impacts of past and continuing pollution will probably remain for many decades, since arctic vegetation is both very sensitive to pollution and very slow to recover.⁶⁶ “*The cumulative effects of acidifying emissions and the deposition of toxic heavy metals can be disastrous for ecosystems which are already subject to extreme climatic conditions.*”⁶⁷

It has been demonstrated that emissions from Norilsk Nickel significantly contribute to so-called Arctic haze, which influences the climate in the Arctic. Arctic haze is a persistent and visible layer of pollutants (mostly sulfate aerosol and soot) which accumulate in the arctic atmosphere during winter and spring.⁶⁸ The long dark winter results in a cool, stable body of near-surface air that traps the incoming material for periods of up to months. The amount of soot within the haze directly affects the amount of solar energy passing through the haze. During winter, there is evidence that the soot has an insulating effect and reduces heat loss. During spring and summer, increased soot deposition can influence the snow’s ability to reflect radiation and therefore increase the global warming effect.⁶⁹ The effects of the haze on the arctic climate are complicated and not fully understood. The effects, however, may be severe because the Arctic is thought to be particularly sensitive to changes in the overall heat balance.⁷⁰

5.4 Health Impacts

SO₂, nickel and heavy metals are substances which are harmful to human health and *inter alia* can lead to respiratory illness, cardiovascular illness, and various forms of cancer. Health data collected from the 1990s to the present confirms a wide range of health problems ailing the people living around the Norilsk operations. Studies also document the health impact of excessive and constant exposure to large amounts of such pollutants.

In a 2008 research document conducted by the Russian Academy of Sciences for the World Bank, the issues of ambient air pollution and toxic pollutants in Russia are assessed in regard to human health.⁷¹ The Russian scientists show a clear positive correlation between an increase in atmospheric sulphur dioxide concentration and an increase in acute respiratory illnesses and mortality.⁷² It is apparent that residents in Norilsk have a higher prevalence of

⁶⁵ AMAP, 1997: Arctic Pollution Issues: A State of the Arctic Environmental Report, “Heavy Metals,” p. 103.

⁶⁶ As the company itself states, “[a] feature of the region is the vulnerability of its environment; the reproductive ability of the region environment is several times lower than in middle latitudes due to unfavourable physiogeographical and climatic conditions.” Power-point presentation by Norilsk Nickel, on file with the Council.

⁶⁷ AMAP 2006: Arctic Pollution, p. 41.

⁶⁸ AMAP 2006: Arctic Pollution 2006, p. 11.

⁶⁹ NILU 2007: *Prosjektrapport. Areosoler, stråler og skyer i polhavet*, available at: <http://noracia.npolar.no/noracia-prosjekter-2/aerosoler-skyer-og-straling-i-polhavet>

⁷⁰ AMAP 2006: Arctic Pollution, “Executive Summary.”

⁷¹ Russian Academy of Science 2008: Environmental Health in Russia. Information for World Bank Project “Russia Environmental policy and institutions.” On file with the Council.

⁷² See footnote 71, p.11. “An increase of [sulphur dioxide’s] mean [daily] atmospheric concentration by 10 µg/m³ (µg/m³ = microgram per cubic meter) leads to general mortality growth by 0.6% and a still larger growth of cardiovascular mortality and respiratory morbidity (up to 0.9% per 10 µg/m³ SO₂). Increase in the number of referrals to hospital or requests for urgent medical help due to respiratory diseases among people

health complications and illnesses than elsewhere in the Krasnoyarsk Krai region.⁷³ According to a recent study conducted by Russian experts for the United Nation in the Russian Federation, air pollution accounts for 21.6 percent of newly identified illnesses among the adult population and 37 percent among children.⁷⁴

Cancer

Incidents of cancer, particularly lung cancer, have been found to be higher in the city of Norilsk than anywhere else in the Krasnoyarsk Krai region. According to the research conducted for the World Bank, “a higher prevalence of oncological diseases has been clearly observed in Norilsk for many years...standardized indicators of lung cancer incidence among men in Norilsk are much higher than the [region].”⁷⁵ The authors of the report state that “[they] believe that the high indicators in Norilsk have no analogs [anywhere else] in Russia.”⁷⁶ There are indications that in recent years there has been an increase in cancer-related deaths, especially lung cancer.⁷⁷

Children’s health

In 2007, a team from the BBC reported on the environmental and health situation in Norilsk and interviewed local residents and health practitioners. The report describes, *inter alia*, the health concerns raised by a local doctor who was worried about the impact the pollutants are having on the health of the population, particularly children. The doctor told the BBC that there was a clear trend vis-à-vis children’s health: “In the 1960s a lot of people came here and they were all healthy. But now there are very, very few healthy children being born here and that is all because of the environment.”⁷⁸

The doctor’s concern is substantiated in several studies on how children are affected by the pollution. Previous research conducted by the Russian Academy of Sciences in the 1990’s shows that the incidence of respiratory and neurological diseases was considerably higher among children in Norilsk than those living in arctic cities with clean air. Investigations looking at the prevalence of respiratory and ear, nose and throat diseases among school children found that children living near the company’s operations are 1.5-2 times more likely to become ill than those living some kilometres further.⁷⁹ Mortality from respiratory diseases, which at that time was nearly 16 per cent of all deaths among children in Norilsk, was also considerably higher than the average in Russia.⁸⁰

aged 65+ is estimated as 0.5% per 10 µg/m³ SO₂... based on the aforementioned criteria for assessing acute effects of sulphur dioxide, one can expect, for instance, mortality growth of 2-3% above the background in cities where sulphur dioxide concentrations in ambient air exceed the established standards.”

⁷³ United Nations in the Russian Federation, “Chapter 2: The Russian Arctic Environment and Human Health,” Climate Change Impact on Public Health in the Russian Arctic,”2008, p. 5- 6,

<http://www.unrussia.ru/doc/Arctic-eng.pdf>

⁷⁴ See footnote 73.

⁷⁵ See footnote 71, p.18.

⁷⁶ See footnote 71, p.18.

⁷⁷ Interview with Russian medical researcher, on file with the Council.

⁷⁸ Galpin, Richard, BBC, “Toxic Truth of secretive Siberian city,” and “Exclusive BBC report from inside the city of Norilsk – Video and Audio news,” April 5, 2007; <http://news.bbc.co.uk/2/hi/europe/6528853.stm>

⁷⁹ See Kagiroy, V.N., Revich, B., Institute of Forecasting – Russian Academy of Sciences, “Public health and ambient air pollution in Arctic and Subarctic cities in Russia,” in *The Science of the Total Environment*, Issue 160/161, 1995, p.587-588.

⁸⁰ Revich, B., Institute of Forecasting – Russian Academy of Sciences, “Public health and ambient air pollution in Arctic and Subarctic cities in Russia,” in *The Science of the Total Environment*, Issue 160/161, 1995, p.588.

Reproductive health

Data concerning birth defects and low birth weight in babies (under 2,500 g) is widely used as indicators in environmental epidemiology and may be used to attribute the negative impact of environmental pollution. Studies in Russia found that there generally was a higher rate of illnesses among new-borns, as well as an increased number of low birth weight babies from cities with heavy environmental pollution. In particular, an increase in low birth weight babies was observed in the vicinity of the nickel plant in Norilsk.⁸¹

On the issue of the health status of pregnant women, statistics show that problems during the last half of pregnancy and premature delivery are much more frequent in Norilsk than in any other area in the regions.⁸² Higher levels of abortions, pregnancy toxicoses and premature births have also been observed.⁸³ The higher frequency can be explained by the exposure to pollutants, though it is unknown whether the working environment, for example the fact that women work within the smelters operations, is also a factor.⁸⁴

Health impacts as described by local citizens

Naturally local people are worried about how their health and daily lives are affected by the pollution from the company's operations. In the open letter to Russian politicians and authorities referred to previously in the recommendation, locals express their concern that sulphur dioxide is found in excess quantities in the atmosphere, and that it contributes to *“the incidence and development of chronic lung diseases, causes irritation of the conjunctivae and airways, accelerates and exacerbates chronic gastritis, bronchitis, laryngitis, and can contribute to the development of lung cancer. As it binds with atmospheric precipitation, sulphur dioxide forms minuscule drops of sulphuric acid that daily burn our lungs and that fall out with rain, killing all plant growth in our city.”*⁸⁵ Moreover, the locals express that:

- Heavy metals emitted with atmospheric pollution impair the immune system, a prerequisite for living in the arctic climate.
- Increased immunodeficiency translates into higher susceptibility to frequent acute respiratory viral infections, recurrent pneumonia and bronchitis, and high prevalence of allergic disorders among children.
- There is an increased need for medical attention. In 1995, the number of requests for medical assistance was 1369.8 per thousand patients. In 1999, that number was 1591.8, and in 2001, 1668.5. This tendency continues.
- It has become common practice for childcare centres to cancel daily outdoor activities on account of the high pollution levels in the air.
- Norilsk residents develop oncological diseases 1.65 times as frequently as the Russian average, and for residents of the city's central district these statistics are 2.7 times as high.

⁸¹ See footnote 71.

⁸² See footnote 80, p. 588. Statistical data was compiled by the Institute of Medical Problems of the North.

⁸³ See footnote 77.

⁸⁴ See footnote 80, p. 588.

⁸⁵ Open letter from the residents of Norilsk 2007, see footnote 22. . Also see footnote 45.

6 The Company's work in the area of Emissions Reduction

6.1 The Company's Action Plan for the Reduction of Emissions

Norilsk Nickel's website states that environmentally safe production and protection of the environment are top priorities for the company. Its environmental policy highlights in particular: the gradual reduction of air emissions, including of sulphur dioxide and solid substances; the gradual reduction of wastewater discharge into rivers and lakes; as well as the establishment of waste disposal sites.⁸⁶

The company's Board of Directors has approved an environmental strategy for 2004 through to 2020 with the long-term goal of reducing emissions and complying with environmental regulations: "*The Company's Production Development Strategy through 2015 (reconfirmed in its Strategy through 2020) sets environmental safety improvement, air emissions and wastewater discharge reduction aimed at environmental legislation compliance, as one of the long-term objective of the Company's business.*"⁸⁷

Regarding air emissions, in 2004 the company started implementing an action plan for the reduction of emissions. Through the construction of sulphur-disposal facilities, the closure of part of the nickel plant as well as other measures, the company estimates that the atmospheric emissions of solid pollutants will be eliminated and emissions of sulphur dioxide reduced by 70 percent from current levels by 2010.⁸⁸ This would entail a reduction in SO₂ emissions down to some 580,000 tons in the next two years. The company's goal is to gradually reduce emissions in order to achieve the maximum permissible emissions (MPE) levels by 2015.⁸⁹ The company does not specify its emission-reduction goals further, but in an interview with the Russian newspaper *Novosibirsk*, a Norilsk official details the intended reduction in SO₂ emissions, which "*are planned to be reduced to 915 thousand tons by 2009, to 647 thousand tons by 2011, and finally to 213 thousand tons by 2015.*"⁹⁰ Norilsk Nickel does not detail how much emissions will be reduced by 2020. However, in an interview with the BBC in April 2007, the company's Deputy General Director, Tav Morgan, informs that the company expects to reduce SO₂ emissions by approximately two-thirds during the period 2015-2020.⁹¹ The company does not give any information about the base line for the reduction, or what the emission levels will be in 2020.

To the Council's knowledge, no significant decrease in SO₂ emissions have so far been observed. On the contrary, the company reports that SO₂ emissions increased by some 11,000 tons in 2007. The company explains that this is due to planned modernisation upgrades at the

⁸⁶ Norilsk company website, "Protecting environment and conserving natural resources," <http://www.nornik.ru/en/development/protectionwildlife/>

⁸⁷ See footnote 86.

⁸⁸ Norilsk company website, "The Board of Directors of MMC Norilsk Nickel approved the Production Plan to 2015 for its operations in the Taimyr and Kola Peninsulas on the 18th of March 2003," <http://www.nornik.ru/en/press/news/1143/>

⁸⁹ See footnote 86.

⁹⁰ Interview with Norilsk official, Maxim Schur, Deputy head of prospective development office of OAO MMC Norilsk Nickel Polar Division, Translated article from Russian newspaper *Novosibirsk*, (Expert Sibir), "Through Thick and Thin and Smoking Chimneys," No. 38 038, Oct.16, 2006. on file with the Council.

⁹¹ Galpin, Richard 2007: *Toxic Truth of secretive Siberian city*, BBC 5. april 2007. <http://news.bbc.co.uk/2/hi/europe/6528853.stm>

copper plant aimed at increasing productivity and the volume of sulphur disposal at the plant, as per the Action Plan.⁹²

The company is open about the magnitude of the challenge it faces in following through on its environmental policies: “*The key problem the Company faces with respect to air pollution is the need to gradually reduce its emissions of sulphur dioxide, which is the main air pollutant.*”⁹³ Part of the problem, as the company claims, stems from the Soviet approach to industry, under which production facilities (still being used by the company) were built without due consideration for environmental protection.⁹⁴ Another problem the company points to is the inability to utilise SO₂ on account of the smelters’ location and inaccessibility: “*the problem is hard to resolve due to the unique geographical position of the Polar Division (its inaccessibility) and, therefore, ineffectiveness of applying the traditional technologies of sulphur dioxide utilization from the gas-dust emission to the atmosphere.*”⁹⁵

In the aforementioned 2007 interview with the BBC, Deputy General Director of Norilsk Nickel said that the pace at which Norilsk was resolving these environmental problems can be favourably compared to other facilities worldwide, however also explained to the BBC that it would be hard to guarantee the pace of reduction since the company was still developing the necessary technology.⁹⁶

6.2 The Company’s response

In accordance with the Ethical Guidelines, the Council’s draft recommendation was sent to Norilsk Nickel, through Norges Bank, on November 20th, 2008. Along with the draft, the Council sent a letter to the company requesting a reply to questions about:

- the current status of the “Action Plan for the Reduction of Emissions”, particularly as it pertains to the company’s target to reduce SO₂ emissions by 70 percent by 2010 and to eliminate the emission of solid particles,
- which measures the company is implementing to reduce emissions by 2010,
- whether the environmental measures include the clean-up of heavy-metals contamination in soil and water bodies’ sediments around Norilsk and, if so, which measures are being implemented and what are their current status and time frame.

The company replied to the Council’s enquiry on December 18th, 2008. No response was however given to the Council’s specific questions. Norilsk acknowledges that the scale of the environmental damage is large, but states that the action plan for the reduction of emissions is being successfully implemented: “*understanding the depth and scale of environmental damage inherited by the company since the Soviet times, the management of Norilsk Nickel*

⁹² Norilsk Nickel 2007: Social Report, “Chapter 5.2: Environmental Impacts and Performance,” p. 98.

⁹³ See footnote 92.

⁹⁴ Norilsk company website, “Protecting environment and conserving natural resources,” <http://www.nornik.ru/en/development/protectionwildlife/> and BBC, “Toxic Truth of secretive Siberian city,” April 5, 2007; <http://news.bbc.co.uk/2/hi/europe/6528853.stm>

⁹⁵ Norilsk 2007 Social Report, “Chapter 5.2: Environmental Impacts and Performance,” p.98.

⁹⁶ See footnote 91.

elaborated and has been successfully implementing the comprehensive ecological rehabilitation program – Action plan on decreasing emissions of polluting substances.”⁹⁷

According to the company, no fast and effective solutions to the environmental problems is possible without leading to significant social and economic consequences: *“any fast and efficient solution of environmental problems having been accumulated in Norilsk industrial region over half-century is impossible without total prolonged suspension of existing production operations, which would entail grave social and economic consequences for Krasnoyarsk region and would threaten the existence of the city of Norilsk itself.”*

In its response to the Council, the company reported that in 2004-2007 recycling of industrial wastes more than doubled and that discharges to water decreased 37 percent. Furthermore, the company states that it has reduced emissions of solid particles by more than half in the last ten years, as well as decreased overall SO₂ emissions by 3.4 percent since 2004. According to the company however, most worthy of mentioning has been the reduction of metal emissions, particularly copper oxide (by approximately 15 percent), nickel oxide (by approximately 24 percent), and cobalt oxide (by approximately 28 percent). This information, along with other data pertaining to emissions, is also provided in the company’s CSR and annual reports. The Council was already aware of this information, having used it as a basis for the draft recommendation submitted to Norilsk Nickel. Therefore, the Council finds the company’s letter to provide little new information.

On the issue of 2015 emission targets, the company assures that they understand the importance of the action plan’s implementation: *“[they] would like to assure [the Council] that the management of the company understands the importance of continuing the realization of the Action plan and is aiming to fully reach the targets by 2015, within initial deadline set by the Action Plan.”*

Nevertheless, the Council finds it difficult to evaluate emission targets and percentages of emission reductions as long as the company does not provide information on its current level of emissions. From the company’s letter it is neither clear how large emissions for Norilsk Nickel will be in 2015, nor what milestones the company has set for its emission levels. The clearest stated emission targets are found in the company’s original action plan from 2004, in which it is written that SO₂ emissions will be reduced by 70 percent, while emissions of solid particles will be eliminated by 2010.⁹⁸ This implies that SO₂ emissions will have to decrease from 1.9 million tonnes to 580 000 tonnes within the next one to two years.

In order to evaluate the progress of the company’s action plan the Council requested information from Norilsk Nickel on the status of the plan as pertaining to 2010 targets, which were the original milestones set for the action plan. The Council notes that in the company’s response letter there is no reference to the 2010 targets. There is only reference to the 2015 goals, thereby indicating that the company has changed the time plan for reductions of emissions.

⁹⁷ Norilsk letter to the Council, 18.12.2008, on file in the Council.

⁹⁸ Norilsk Nickel’s company website : “The Board of Directors of MMC Norilsk Nickel approved the Production Plan to 2015 for its operations in the Taimyr and Kola Peninsulas on the 18th of March 2003,” se <http://www.nornik.ru/en/press/news/1143/>

7 The Council's Assessment

Based on the information presented above, the Council has assessed whether the environmental damage caused by Norilsk Nickel is so serious that the company ought to be excluded from the Fund in accordance with the Ethical Guidelines, point 4.4

The Council has assessed the *scale of the damage and the extent to which it has irreversible or long-term effects*. In the Council's view, years of excessive emissions of SO₂ and heavy metals have inflicted far-reaching and long term environmental damage, as clearly observed in the forests, vegetation and water bodies around the Polar Division's operation in the Taimyr Peninsula. The company's SO₂ emission levels are among the highest from any single source in Russia or Europe; heavy metal emissions, such as nickel, are also significant. The Council accepts it as fact that the company's emissions have directly caused the "forest death zone," as well as other serious and visible damages to nature in the vicinity of Norilsk. Considering this situation, and in light of the sensitive nature in the arctic environment, the Council assumes that long-term environmental damage will continue to persist even if emissions were to be significantly reduced. The Council also notes that emissions from Norilsk Nickel are a major contributor to regional environmental problems in the arctic through the long-range trans-boundary transport of haze-inducing substances, causing arctic haze and the accumulation of heavy metals in the north. Based on these considerations, the Council finds the past and ongoing environmental damage caused by Norilsk Nickel to be extensive, long-term and lasting.

The next element in the assessment pertains to *whether the damage has considerable negative impact on human life and health*. Over 200,000 people living in the vicinity of the company's industrial operations are constantly exposed to large concentrations of pollutants in the atmosphere, soil and water. The human health effects of excessive exposure to pollutants such as sulphur dioxide, nickel and heavy metals are well established. The Council has little reason to doubt the overall results of the medical studies documenting the negative health effects caused by the smelters' emissions. Of particular concern to the Council are health risks facing children and infants, which have shown to be particularly vulnerable to exposure to excessive air pollution. Taking into consideration the information at hand, the Council finds it most likely that the emissions from Norilsk Nickel have inflicted, and continue to inflict, serious health problems on the local population around Norilsk

The Council has also assessed whether *the environmental damage is a result of breaches of national laws or international norms*. The 2007 findings from inspections carried out by the Russian environmental authority, *Rosprirodnadzor*, demonstrate that the company has not complied with national water discharge standards and that the company has failed to implement previous requirements. The company denies the environmental agency's conclusions. At the same time, the company itself states that in regard to air emissions, the goal is to be in compliance with domestic regulatory requirements by 2015. The Council is not aware whether Norilsk has been granted an exemption from this requirement. Nevertheless, the Council finds it likely that the company has exceeded both the maximum permissible levels of emissions to air and water and, moreover, that this appears to have been going on for many years.

The subsequent element of the evaluation assesses whether *the company has neglected to act in order to prevent the damage, and not implemented adequate measures to rectify the damage*. The Council has taken note of the point that many of the current environmental

problems at the company's installations have been inherited from the Soviet era. Even though the company has implemented measures to reduce the level of metal emissions in the last years, the current level remains high while SO₂ emission levels remain virtually unchanged. Since 1992, SO₂ emissions have for the most part been around 2,000,000 tons per year. The company's ambitious emission-reduction targets, which were approved in 2003, seem to be far from realised. Moreover, the company does not appear to have a plan for the clean up of heavy metal contamination of soil around Norilsk. In the Council's opinion, it is clear that the company has not done enough to prevent or mitigate environmental damage.

The final consideration in the Council's assessment is *the probability that the company's unacceptable practice will continue*. The Council views it unlikely that Norilsk Nickel will achieve its target of 70 percent reduction of SO₂ at the Polar Division by 2010, and has doubts as to whether such large emission reductions can even be implemented by 2015. It is the Council's opinion that the lack of emission reduction in the last four years, coupled with the company's own statement that it cannot guarantee the pace of emission reduction, indicate an unacceptable risk that high levels of pollution will continue to be emitted by the company. The Council therefore finds it unlikely that the significant emission reductions required to mitigate serious damage to the environment and human health will occur in the near future.

8 Recommendation

The Council recommends that MMC Norilsk Nickel be excluded from the investment universe of the *Government Pension Fund Global*.

Gro Nystuen
Leder

(sign.)

Andreas Føllesdal

(sign.)

Anne Lill Gade

(sign.)

Ola Mestad

(sign.)

Bjørn Østbø

(sign.)