



Nord Stream AG  
c/o Ramboll Finland Oy  
P O Box 3, FI-02241 ESPOO

Unofficial translation

Ref.  
Your letter of November 14, 2006

Re:  
STATEMENT ON ENVIRONMENTAL IMPACT ASSESSMENT  
PROGRAMME, NORD STREAM, RUSSIA–GERMANY  
OFFSHORE GAS PIPELINE IN THE FINNISH EXCLUSIVE  
ECONOMIC ZONE

## 1. PROJECT INFORMATION AND EIA PROCEDURE

Ramboll Finland Oy has on behalf of Nord Stream AG submitted to the Uusimaa Regional Environment Centre on November 14, 2006, an Environmental Impact Assessment (EIA) programme for the Nord Stream Russia–Germany offshore gas pipeline project as regards the Finnish Exclusive Economic Zone (EEZ).

### Developer and co-ordinating authority

The developer is Nord Stream AG, and the contact person is Dirk von Ameln. Ramboll Finland Oy act as consultants and their project manager is Tore Granskog. The Uusimaa Regional Environment Centre is the co-ordinating authority in matters concerning the assessment procedure of the project. Their contact person is Jorma Jantunen.

### Need for an EIA procedure to assess the project

The need for an EIA procedure to assess the project is based on the Finnish Act on Environmental Impact Assessment Procedure (468/1994 with amendments), Sections 4 and 4 a. According to Section 4 a, the Act is applied to the Finnish EEZ as referred to in Section 1 of the Finnish Act on the Exclusive Economic Zone (1058/2004). By virtue of the EIA Act, Section 4, subsection 1, the need is regulated by the project list given in Section 6 of the Decree on Environmental Impact Assessment Procedure (713/2006), paragraph 8 (transmission and storage of energy and substances), on the basis of paragraph b. According to this paragraph, the EIA procedure is applied to gas pipelines with a diameter of more than 800 millimetres and a length of more than 40 kilometres.

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**Charge payable by developer** €15 520 (A23-531-AT3)  
Criteria for charges appended to the statement

Also applied to the project is the UN Convention on Environmental Impact Assessment in a Transboundary Context (the Espoo Convention, Finnish Treaty Series 67/1997). Finland and Estonia also have a bilateral treaty on EIA (Finnish Treaty Series 51/2002), where the principles for the application of the Espoo Convention are defined more specifically.

### **Assessment programme**

The EIA programme is the plan drawn up by the developer containing the necessary investigations and the organisation of the assessment. The results of the assessment are to be collated later in the form of an assessment report, which will be subject to public hearing after the assessment programme has been handled. Public announcement of the assessment report will be published separately.

### **Project and alternatives**

The project comprises two parallel offshore gas pipelines from Russia to the Gulf of Finland and across the Baltic Sea to Germany. The pipeline route passes through the territorial waters of Russia and Germany and the Finnish, Swedish and Danish EEZs. The diameter of the pipes, which are planned to be at a distance of about 50 metres from one another, is 1220 mm and their length is about 1200 km. The length of the pipeline route in the Finnish EEZ is 369 km. The part of the pipeline in the EEZ is outside the territorial waters of Finland. The planned gas pipeline will be installed by lowering it to the seabed. In places the pipeline will be covered or placed in pipe trenches.

The offshore Nord Stream gas pipeline is to be brought into use in the year 2010 with one gas pipeline operating. The second pipeline is planned to be in use in the year 2012. The project is a response to the growing need for natural gas in the European Union.

### **Alternatives to be assessed**

**0-alternative (No-action alternative):** The project will not be implemented; the Baltic Sea offshore gas pipeline between Russia and Germany will not be built.

**Alternative 1:** According to the Nord Stream project plan, a gas transfer system consisting of two pipelines will be built from Vyborg in Russia through the Baltic Sea to Greifswald in Germany.

### **Connections with other projects and plans**

In Finland the project is not connected to the implementation of any other projects or plans.

## Linkages of the assessment with other statutory procedures

The exchange of information with other Parties to the Espoo Convention is linked to the assessment procedure.

## 2. INFORMATION AND HEARING OF THE ASSESSMENT PROGRAMME

Information on the public hearing of the assessment programme has been given in accordance with the Finnish EIA Act and Decree in the following newspapers: Helsingin Sanomat, Hufvudstadsbladet, Turun Sanomat, Åbo Underrättelser and Kymen Sanomat.

The assessment programme has been announced and was on view to the public from November 27, 2006, to January 26, 2007, in the coastal municipalities on the Gulf of Finland, in the municipalities in the southern parts of the Archipelago Sea and on the Internet (<http://www.nord-stream.com/fin/>).

The corresponding assessment plan for the whole Baltic Sea area was appended to the EIA programme.

The project was presented at events held between December 11 and 14, 2006, in Helsinki, Hanko, Turku and Kotka. In addition, a separate presentation event for authorities was held in Helsinki.

On the basis of the Espoo Convention, the public has the opportunity to have their opinions heard, also on the environmental impacts of the whole project. If the project has environmental impacts in other Baltic Sea countries, their authorities, inhabitants and associations also have the right to participate in the assessment procedure in Finland.

The Ministry of the Environment will supply the Parties to the Espoo Convention with information on the feedback received from Finland on the international part of the project.

## 3. SUMMARY OF PROPOSED STATEMENTS AND OPINIONS

Statements have been requested from the central ministries, expert organisations, officials and municipalities on the coast of the Gulf of Finland and the municipalities of the southern areas of the Finnish archipelago on the assessment programme.

### Statements

**The Ministry for Foreign Affairs** states that in terms of the solidary development of European Union energy policy and the EU natural gas markets it would have been desirable if the interests of other Baltic Sea countries had been taken into account, either through an alternative pipeline routing or through enquiries to countries interested in cooperation in this project.

In addition, the ministry proposes several revisions to the authorisation requirements specified in the assessment programme and points out that according to the UN Convention on the Law of the Sea, the approval of the coastal state is required for the determination of the delineation of pipelines laid on a continental shelf.

**According to the Ministry of Trade and Industry**, the project has an effect on the operational environment and permitting procedures relating to energy policy. In its statement, the ministry points out viewpoints associated with energy policy, administration and application of legislation.

The ministry is of the opinion that in the planning of the project adequate attention has not been given to the development of the natural gas markets in the Baltic Sea area and connections to existing natural gas networks, and the only alternative that is proposed for the gas pipeline is the so-called zero-alternative (that the pipeline would not be built). If the planned pipeline route under the Baltic Sea were to present itself as problematic in regard to its environmental effects, the ministry proposes that the companies responsible for the project should also investigate alternatives to the south of the present route. A more detailed investigation of a more southern alternative is important for the acceptability of the project. If such alternatives are not to be investigated closer, the reason for the decision should in any event be clearly justified.

The Ministry of Trade and Industry is the authority for permits and notification for research regarding the use of the seabed in the Finnish EEZ. According to the UN Convention on the Law of the Sea, the approval of the coastal state is required for the determination of pipeline routes.

**The Ministry of Agriculture and Forestry** states that this is an extensive and long-term project, involving the seabed of the Baltic Sea and its use, which has impacts on, for example, the fishing industry in the Gulf of Finland. The gas pipelines, construction work relating to the installation of the gas pipelines and the protection zones will have negative impacts on trawling in the marine areas outside of Helsinki and Hankoniemi, among other places. A greater detriment, however, is presented by the loss of the traditional trawling areas in the pipeline corridor. The construction activities which will alter the seabed (e.g. dredging, extraction, filling, levelling of the seabed) and their impacts (sedimentation) are not only detrimental for fishing but also to the fish stocks. Particularly, the traditional and present-day trawling areas in the Gulf of Finland need to be identified and so should the impacts of the laying of the pipeline and its possible protection zone.

The **Ministry of the Environment** states that Finland is investigating the extension of the Natura 2000 network to its EEZ, because the European Commission has called for member states to expand the network by adding open sea areas. This should be noted in the evaluation of the environmental impacts of the project. It is possible that as a result of the investigation it will be necessary to expand the present Natura 2000 areas or establish completely new areas in the open sea.

The **Geological Survey of Finland** states that the construction of an offshore gas pipeline affects the marine environment significantly and that the construction should be carried out by using technology that causes the least amount of damage to the environment. The topography of the seabed in the Gulf of Finland is uneven and levelling the seabed would require a considerable amount of construction work in the Finnish EEZ. The pipeline and the work on building a protective cover will modify the seabed to the extent that, at least in some places, the movement of sea currents will be altered. These alterations in the sea currents will change the erosion and sedimentation conditions at least locally. The changes in the conditions may in time cause geotechnical instability to the pipe itself or its protective cover. The effect of the benthic sea currents on the erosion and sedimentation conditions before and after the construction of the pipeline should be investigated and modelled.

The Geological Survey of Finland considers the programme along with its addendums, in spite of its extent, partially deficient and points out, for example, that the information regarding the seabed is presented with a few sentences and in mentioning harmful substances the programme refers to high levels of harmful substances without presenting analysis results. In addition, there are no pictures of the geological structure of the seabed and no plans have been presented regarding the disposal of excess mass that will result from the removal of ridges. The programme states that the modifications to the seabed will affect the environment through, for example, the dispersion of sediment to a distance of approximately 1000 metres at most in the vicinity of the pipeline route. However, according to marine geological research there is evidence that fine-grained sediments are, in fact, transported along with sea currents to a significantly wider area.

In the Baltic Sea and the Gulf of Finland a few gas vents are known to be over a metre in diameter, of which the largest can be up to hundreds of metres in diameter. The areas with the gas vents and the possibly connected rock faults should be investigated for the security of the pipe in the area of the gas pipeline. The preliminary investigations should guarantee a reliable foundation of information before the installation of the pipeline, for the monitoring of the state of the environment during and after installation.

**The Finnish Maritime Administration** states that the planned natural gas pipeline will be situated outside of the fairway, so it will not have a direct effect on maritime traffic towards Finland's ports.

The installation of the pipeline along with its protection zones on busy routes of the GOFREP (Gulf Of Finland Reporting) system may produce a significant security risk for maritime transport. During the lifetime of the pipeline it is possible that situations may arise where emergency anchoring must take place along the pipeline route, thus causing a risk to the pipeline itself as well as to maritime transport.

**The Finnish Institute of Marine Research** states that a plan for actual evaluation of the impacts has not been made. The tight schedule for the implementation of the project significantly complicates the planning and implementation of a detailed assessment programme. Given the particular characteristics and vulnerability of the Baltic Sea, especially of the Gulf of Finland, there is reason to consider adjusting the schedule to permit a sufficiently exhaustive evaluation. The Institute of Marine Research also highlights its concerns regarding long-term research stations possibly ending up underneath the natural gas pipelines. Regarding the long-term follow-up, decades of work will be put to waste if the sampling sites are destroyed.

As recognized in the assessment programme, the most remarkable impacts of the project will most likely arise in conjunction with activities related to construction, dredging, filling and blasting. The assessment programme does not, however, describe how the impacts will be followed throughout the installation of the pipelines or afterwards. The two kilometre-wide corridor addressed in the assessment programme around the pipeline, seems to the Institute of Marine Research an arbitrary approximation. The extent of the area affected depends locally on sediment and conditions relating to sea currents. The evaluation of the possible extent of the affected area requires concrete information on the locations for dredging and disposal areas, the amounts of materials to be transferred, and modelling of different seabed types. To determine the actual impacts of the project will require mapping of the topography of the seabed, analysis of the concentrations of harmful substances and identification of the biota within the possible affected area before construction, and will require follow-up during and after construction.

The assessment programme states that the natural gas pipeline route has been investigated for harmful substances every five kilometres. This indicates that the developers have access to material relating to evaluation. The acquisition of this material for open international scrutiny is extremely important. Because the evaluation of environmental impacts should also include the appraisal of possible effects from elsewhere on the marine areas of Finland, the Finnish authorities should have access to the assessment data. The Institute of Marine Research points out that the results on concentrations of harmful substances can depend significantly on the sampling and primary treatment methods used. In addition, the applicability and representativity of the selected sampling locations should be evaluated in light of the modelling, as well as general and specific information on sediment.

In addition, the Institute of Marine Research states that although the planned route does not pass through any official fishing area monitored by the Federation of Finnish Fisheries Associations, the heavy pipeline placed on the seabed may form such a significant threat factor to trawling in the open sea that it requires close examination. Nor does the programme refer to any measures to be taken if dumped chemical weapons or munitions are exposed when laying the pipeline, or how information on the real

distribution of the dumped chemical weapons and munitions and the information on the risk they may pose could best be increased.

The Institute of Marine Research has already in its previous reports stated that a monitoring programme should be prepared for the affected area for the duration of the construction work, in order to clarify the extent of the affected area, the quality of the suspended substances, the changes in the concentrations of harmful substances in the sea water, the dispersion of particulate matter and the effects on the biota. The assessment programme does not explain in detail what will happen to the harmful inorganic and organic substances in the bottom sediment during the construction of the natural gas pipeline. The Institute of Marine Research stresses that a simulation model, for example, should be used to investigate what will happen to harmful substances and nutrients in sediments during the construction of the pipeline.

**Metsähallitus** (a state-owned enterprise administering land and water areas) states that while it does not yet propose detailed descriptions of how the investigations and clarifications will be implemented, the assessment programme is quite exhaustive. According to Metsähallitus, the description of the assessment report should present precise plans for research and implementation at least in regard to how the negative impacts of the construction of the pipeline on marine life will be minimised and how disturbances to the ringed seal from ship traffic, blasting and other pipeline-related activities in the Gulf of Finland will be minimised. In addition, plans should be presented as to what measures will be taken during decommissioning of the pipelines, how the present state of all important indicator organisms is to be followed, and how the conditions in the Baltic Sea will be followed during the construction of the pipelines and after installation. Metsähallitus considers follow-up research necessary at least in regard to the bird life in the archipelago, and the most important fish and seal species. Metsähallitus especially places a great deal of importance on the harmful substances transported by the Kymijoki River to the eastern part of the Gulf of Finland and on the valuable natural habitats of the Gulf of Finland.

According to the **National Board of Antiquities** the project may have an effect on the underwater cultural heritage, especially cultural and historical shipwrecks. The Finnish Act on Archaeological Remains should be applied only in Finnish territorial waters. However, the UN Convention on the Law of the Sea (UNCLOS), which Finland ratified in 1996, binds Finland to protect archaeological and historical objects found in the sea and to preserve archaeological and historical objects found in maritime areas outside of its national jurisdiction, in view of the interest of humankind. Protection outside national marine areas is also considered important in the UNESCO Convention on the Protection of the Underwater Cultural Heritage (not ratified).

The impacts of the project on cultural heritage cannot be assessed, unless an inventory is made along the pipeline route, because the National Board of Antiquities lacks exhaustive information concerning the location of cultural

and historical shipwrecks in Finland's territorial waters or EEZ. Along the designated route for the pipeline or in its immediate surroundings there are two shipwrecks that can be considered to be sites of cultural and historical interest. In addition, there is information regarding an unidentified shipwreck situated less than one kilometre from the pipeline route. There is also information about several wrecks of different ages which are located as close to the route as the two "possible shipwrecks" specified on the map on page 38 of the Environmental Impact Assessment programme.

The **Finnish Environment Institute** states that the assessment programme is rather general. The evaluation includes the planned alternative of the project and the so-called no action alternative, that is, not implementing the project. In addition, route options included in an earlier stage of the programme could have been examined in the assessment programme. At the present time actual route options are lacking. The evaluations of the impacts of the project are planned to be based almost exclusively on expert assessments and no additional information or enquiries have been proposed to be acquired or carried out, throughout the assessment procedures on the environmental impacts.

The Finnish Environment Institute wishes to emphasise that the varying topography of the seabed of the Gulf of Finland and the quality of the seabed complicate the construction of an offshore natural gas pipeline. Because of variations in elevation, the levelling of the seabed (digging or blasting of hard ridges) and the adding of fill materials will likely be the cause of the most significant environmental effects on both the seabed and the water column. The Finnish Environment Institute points out that in the assessment report it is necessary to take special note of the environmental impacts on the seabed and their extent during the construction process. The assessment report should also specify the locations of the levelling work in order to reach reliable evaluations of impacts. An applicable and validated 3D model is needed for the simulation of the dispersion of sediment and sedimentation resulting from construction activities on the seabed, of changes in sea currents, and of the movement of substances in interstitial water. The model should include the salinity and thermal stratification, the effect of swells and fluctuations in air pressure on the currents. In the planning and implementation of the project, the Ministry of the Environment's instructions for the dredging and disposal of sediments should be taken into account. The assessment report should include clarifications on what harmful substances will be used during the project, what concentrations will be released into the sea and what are their possible adverse effects.

As part of the evaluation of the environmental impacts of the project, possible shipwrecks in the area should be located, the risks of damage to the wrecks should be ascertained and the possible leaking of oils and other harmful substances contained in the wrecks should be evaluated.

In terms of the living environment the evaluation focuses mainly on the description of the present-day situation. The evaluation should take into account the wintering and breeding areas of birds and the migratory rest



areas, and in particular the feeding areas of auks and bird species that feed on benthic fauna. In regard to the Natura areas, the assessment report should specify the conservation status of protected areas and what is meant by the inviolability of these areas. Information on the Natura areas and the effects on these areas by the project should be collected to the extent that would clearly certify that no significant detrimental impacts result. In regard to the evaluation of the impacts on Natura areas and the bird life, it is of primary importance to know the season when the installation work will take place. To avoid or minimise detrimental impacts on the bird life, installation work should not be carried out in the shallow marine areas (under 20 metres of depth) of the eastern part of the Gulf of Finland during the nesting or migratory period in May–July.

It should also be noted that Article 4 of the Act on Environmental Impact Assessment Procedure and Article 65 of the Nature Conservation Act refer to the Natura evaluation as a separate juridical status. The possible Natura evaluation referred to in the Nature Conservation Act and the required clarifications should be made in the environmental impact assessment of the natural gas pipeline before the possible authorisation procedure. In addition, the Water Act and possible clarifications arising from the Nature Conservation Act should be taken into account in the evaluation stage.

According to the **Safety Technology Authority**, the natural gas pipeline that is to be situated in the EEZ does not require a permit as referred to in the Chemical Safety Act (390/2005) and the Natural Gas Decree (1058/1993).

The Safety Technology Authority states that in further planning it is necessary to request a clarification of the technical safety of the pipeline from the operator, in which the operator is required to indicate that in the planning of the pipeline system the principle of best practices and standards are followed and the inspections are carried out accordingly. In addition, the impacts on areas other than the environment should be systematically inspected in the case of serious damage.

The **Government of Åland** states that the route of the gas pipeline does not traverse the territorial waters of this autonomous region. The Government of Åland hopes, however, to receive information about the EIA work and notes that the southeast waters of its autonomous region should pertain to the area of indirect impacts. In addition, the Government states that in contrast to the surrounding areas, Åland's Natura 2000 areas are missing from the assessment programme and they should be included in the report.

In their statements the **State Provincial Offices of Southern and Western Finland** stress the assessment of health-related and social impacts. The State Provincial Office of Southern Finland states that the assessment should take into account the impacts on fish stocks and fishing, and should note the impacts on fish that will be used as foodstuff for humans. In considering the analysis of water quality and seabed conditions, methods of monitoring the accumulation of heavy metals, harmful substances and other related substances in the food chain should be defined.

In its statement the **Regional Council of Kymenlaakso** stresses that the environmental conditions and vulnerability of the marine environment of the eastern Baltic Sea should be taken more into consideration. The regional council states that to minimise the measures for the modification of the seabed, alternative pipeline routings within the proposed pipeline corridor should be evaluated and the impacts of the different alternatives should be assessed. It is also necessary to present new alternative pipeline routings not within the presently proposed two kilometre-wide corridor, nor in its proximity. In addition, the Regional Council of Kymenlaakso points out that an assessment should be made of the measures relating to where the pipeline connects to the shore in Vyborg Bay and how this could affect the coast of Kymenlaakso, for example, through the sea currents from east to west. The possible emptying out of flush water into the Bay of Vyborg and its impacts on the nearby coastal environment should be assessed. The **Regional Council of Eastern Uusimaa** has nothing to add in relation to the assessment programme. The **Uusimaa Regional Council** states that the assessment programme does not specify how the impacts of the project on the coast of Finland and Uusimaa will be assessed. The regional council also states that the auxiliary facilities and repair points must be determined in cooperation with the regional councils and municipalities. In addition, the assessment programme should be complemented with a description of how the effects caused by the auxiliary facilities and construction stages will be assessed. The **Regional Council of Southwest Finland** calls attention to the archipelago. It states that since 1999 the province has implemented a “Pro Saaristomeri” programme, which has as its central objective to improve the state and usability of the sea. In fact, the Regional Council of Southwest Finland requires that detrimental impacts from the construction of the pipeline on the aforementioned marine areas are explained in detail in the environmental impact assessment (EIA) and that measures are proposed for their minimisation. In addition, the council states that the objective of the assessment of the results is to find an optimal routing for the pipeline to avoid encroachment on conservation areas and other applications of the sea area. In addition, the failure to implement the project would cause indirect environmental impacts on Finland. For this reason, the impacts of this zero-alternative should be sufficiently clarified so that the comparison could be done and that the least detrimental alternative in terms of the environment could be justifiably chosen.

In their statements, the **Employment and Economic Development Centre (EEDC) for Uusimaa and Southwest Finland** stress the impacts of the programme on the fish fauna and fishing and the assessment of these impacts. In the assessment of the impacts on the fish fauna and fishing the EEDC states that the programme has mainly been expertly prepared. In addition, the EEDC states that the statistical rectangles of the International Council for the Exploration of the Sea (ICES) are used in the programme to evaluate primarily, for instance, the sizes of the fish stocks and spawning stocks and the fishing mortality rate of fish species in the sub-regions of the Baltic Sea. Hence, the statistical rectangles and the methods proposed in the programme do not yet contain sufficiently detailed information on the impacts on the fish stock and fishing.

The Uusimaa EEDC points out that the data on marine mammals are outdated and it states that the grey seal began to recover already in the late 1990s and there are about 15 000 seals in the designated area.

The Uusimaa EEDC states that an inquiry should be conducted of professional fishermen and added to the assessment programme, which would help in evaluating the qualitative effects during and after the construction of the pipeline and after it is decommissioned. In addition, the Uusimaa EEDC emphasises that due to the extent of the project, the accumulation of heavy metals in organisms and fish should be monitored.

The statements by the **Southeast and Southwest Finland Regional Environment Centres** point out, for example, the lack of alternatives, the living environment and conservation areas and special circumstances.

According to the Southeast Finland Regional Environment Centre the assessment should include and examine possible project alternatives or alternative pipeline routings within the proposed route. In addition, the assessment report should explain the basis on which the examined alternatives have been eliminated from the assessment programme.

The main environmental impacts of the project are cited as arising from the construction of the gas pipeline. The Southwest Finland Regional Environment Centre states that in the assessment of impacts, attention should be paid to the risks related to the release of nutrients in the seabed and related effects on the Baltic Sea and its biota. According to the Southwest Finland Regional Environment Centre, the assessment report should deal with possible environmental impacts (e.g. emissions of gas and combustion pollution) arising from possible exceptional situations (accidents, etc.) and should include measures and preparations for these exceptional situations. In the preparations for the introduction of the gas pipeline, attention should be paid to choosing the location for the discharge of water and to minimising the environmental impacts caused by the water discharge.

The Southwest Finland Regional Environment Centre states that the impacts on nature and underwater nature by the project should be investigated to gain an overall impression of the impacts of the project on the natural diversity in the immediate environment of the area of the pipeline, as well as on the areas included in the Natura 2000 network, and in terms of environmental values. The assessment report should also clearly explain the methods used in the assessment of environmental impacts and the related assumptions, as well as to what extent the assessment is based on calculatable aspects, measurements derived from simulation models, literature or reports, and previous research.

The cities of **Hanko, Hamina, Helsinki, Kaarina, Kotka, Loviisa** and **Parainen** and the municipalities of **Halikko, Inkoo, Kirkkonummi,**

**Pernaja, Ruotsinpyhtää, Sipoo, Siuntio, Virolahti** and **Västanfjärd** have submitted a statement on the assessment programme.

The cities of Kaarina and Loviisa and the municipalities of Pernaja, Ruotsinpyhtää and Västanfjärd have no comments regarding the assessment programme. The Board of Environmental and City Planning of the municipality of Halikko acknowledged the assessment programme.

Other statements focus on the conditions of the seabed and the modification requirements for the project and their impacts on, for example, the nutrients stored in the seabed sediments and harmful substances. The mines, weapons, munitions and chemicals dumped in the sea over the years will be noted as well as the authorisations and supervision required for the project. In addition, for example, the possible effects of the release of water used for pressure equalising into the sea will be recognized. For instance, in its statement the Environmental Protection Department of the municipality of Sipoo points out that the construction area should be thoroughly mapped and that the report should indicate the measures to be taken if the seabed is found to contain substances causing a risk of pollution or objects otherwise dangerous to the environment. The city of Kotka states that a sufficiently wide area should be considered for alternatives for the pipeline routing and, when needed, other alternatives should be included so that the necessity for modifying the seabed is minimised. The city of Hanko states that the working methods which are chosen should be such that the nutrients, heavy metals and other substances stored in the sediment that are harmful to the marine ecosystem are not dispersed and reintroduced. In relation to the dispersion of nutrients, the Board of Environmental Planning of the city of Hamina and the municipality of Virolahti point out the need to assess the impacts of the project on seaweed production. The city of Helsinki states that for disposal of excess mass, the HELCOM (Baltic Marine Environment Protection Commission) guidelines should be followed.

In relation to maritime traffic, the city of Helsinki considers it necessary to investigate and observe the heavy traffic between Helsinki and Tallinn, and the environmental impacts on the maritime traffic. In addition, adverse effects on fishing, people dependent on marine areas for their livelihoods and the recreational use of the sea area should be investigated and kept as low as possible.

In relation to impacts on nature, it is stated that the Gulf of Finland is a sensitive ecosystem, that it is already polluted and that it has valuable protected areas. These areas are important to birds for nesting and as migration routes. The environmental board of Hamina and the municipality of Virolahti state that it is central in the timing of the construction that it causes no disturbances in the proximity of nesting areas during breeding periods. Additional information is requested in the assessment in terms of the possible spawning and reproductive areas of fish.

The project is expected to possibly affect the living environment and safety of humans. It is requested that special attention be paid to the exchange of information between different actors if problems arise. In addition, the

sharing of costs in case of accidents should be clarified. It is requested that in the planning stages, it is also clarified what will happen to the pipeline system and what environmental impacts can arise from the decommissioning of the pipeline and how these adverse impacts can be minimised.

## Opinions

**The Coalition Clean Baltic (CCB)** states that in addition to the two proposed alternatives other alternatives should also be examined. The entire Gulf of Finland should be regarded as a potential impact area and not only the two kilometre-wide corridor. The CCB also states that the schedule is too tight and that the environmental responsibility for the project is very unclear at the moment.

The environmental impacts of the pipeline construction stem mainly from the required seabed modification measures and their effects. The CCB states that in regard to the harmful substances contained in the sediments it would be necessary to investigate an alternative method of extraction and processing of the sediments. The seabed sediments also contain high levels of nutrients and it is necessary to assess how much of these might be released during construction. In addition, the munitions dumped into the sea create a risk. Therefore, it is necessary to evaluate the impacts of the project on, for example, the remobilisation and release of the potentially hazardous compounds from the dumped munitions. There should also be, for example, a description of different frequencies of underwater noise included in the assessment of the environmental impacts. The impacts on the Natura 2000 areas should be assessed separately in order to fulfil the requirements of Article 6, chapter 3 and 4 of the Habitats Directive.

It is requested that the existing information be made generally available and that assessment include the evaluation of possible accidents, and information on who are responsible parties and decision-makers if an accident were to occur. The assessment should also include a proposal for decommissioning costs and how money is to be allocated for this. The CCB also proposes in its statement that a liability fund be established for the prevention of environmental damage during the project and repair of any damages.

In its statement the Coalition Clean Baltic also deals extensively with the international dimension of the project.

In its statement, **WWF Germany/Baltic Programme** mainly focuses on dealing with the project as a whole. The statement directly refers to Finland in discussing, for example, the need to assess the impacts of the project on the nesting of birds and the need to take into account seasonal variations and weather patterns when evaluating shipping routes.

In terms of the whole project, WWF Germany/Baltic Programme states that more information is necessary than is presently available in order to begin assessing the actual environmental impacts. It also considers the schedule too tight. Shortcomings are also observed, for example, in the methods, the

description of nature in the project area, the assessment of the common impacts of the project and the compensatory measures for possible environmental damage. WWF Germany/Baltic Programme also points out the requirement for project follow-up.

**The Hanko Environment Association, Kotkan Luonto ry (“Nature in Kotka Association”), the Uusimaa Regional Organisation of the Finnish Organisation for Nature Conservation, and WWF Finland** point out the importance of providing alternatives, and request a comparable no-action alternative, and well-founded options for the exclusion of alternatives. Examples that are mentioned include the transportation of liquefied gas on ships and the development of an alternative land-based pipeline network in Eastern Europe. In addition, reasons for the routing should be further explained in the report. For example, WWF Finland states that alternative approaches to produce an equivalent amount of energy as transportable gas should be proposed and their assumed environmental impacts should be described.

Several statements point out auxiliary facilities of the gas pipeline on land. The assessment programme should include the assessment of environmental impacts of activities at the auxiliary facilities. The installation of the pipelines and the levelling of the seabed are likely to produce several detrimental impacts, such as the resuspension of nutrients, heavy metals, and other toxic substances and the release of organic material from seabed sediments. There is also concern over possible dumped chemicals and munitions along the routing of the gas pipeline. The possible impacts of the construction work on the seabed should be assessed not only in the open seas but also in coastal areas. The assessment lacks a description of noise, including frequencies and noise levels, which originate from the pipeline, as well as what kind of impact this noise has on the biota of the Baltic Sea.

The Baltic Sea is a brackish water ecosystem that is vulnerable and unique, and these characteristics should be taken into account in the assessment. For instance, the Kymenlaakso Regional Organisation of the Finnish Association for Nature Conservation also points out that the eastern parts of the Gulf of Finland belong to Vyborg’s rapakivi massif area and in this way differs from the rest of the area in its bedrock. In spring this area is one of the most important routes for migratory birds, which should particularly be taken into consideration in the schedule for the construction, as should the increasing spawning taking place along the pipeline routing. Of marine mammals, the ringed seal in particular requires special consideration because in winters with less ice cover the reproductive areas on the ice overlap with the construction area in the east.

The report should estimate the impacts of the construction period on all of the important conservation areas in the vicinities of the pipeline route alternatives such as the Eastern Gulf of Finland National Park. The Kymenlaakso Regional Organisation of the Finnish Association for Nature Conservation mentioned the Natura areas and Hankoniemi, the Ramsar area of the Tammisaari archipelago, referred to in addendum 5 of the assessment

programme. In the Gulf of Finland the affected area is wider than the specified two kilometre corridor. Furthermore, the width of the area should be determined with care.

According to the Kymenlaakso Regional Organisation of the Finnish Association for Nature Conservation the EIA should include a specification of how to avoid the release of gas into the atmosphere, because methane is a harmful greenhouse gas and has negative impacts on the atmosphere. In addition, the discharge of anoxic flushing water into the sea is problematic and its harmful effect should be minimised.

**The Finnish Professional Fishing Association, the Finnish Archipelago Professional Fishing Association and the Gulf of Finland Professional Fishing Association** state that the environmental assessment programme and the attached assessment plan are lacking at this stage in regard to the professional fishing interests relating to the project, as well as the impacts on fishing of the gas pipeline and the study of these impacts in terms of fishing interests.

The parallel pipes and their construction present varying adverse impacts on professional fishing. The greatest risk and disadvantage to professional fishing, when the pipeline is uncovered, arises from the prevention, hindrance and limitation of bottom trawling, and different risks relating to this activity. Trawling can also cause risks to the gas pipeline itself, for example, the concrete and anticorrosion coating may be damaged if the trawl board is dragged over the pipeline. In practice, the bottom trawling of the waters cutting across the direction of the pipeline will not be possible at all; and trawling parallel to the pipelines will be impaired.

Regarding the setting of the alternatives, the comments call for a well-founded justification on why the already existent gas pipeline routings are not put into use, for example, the ones in the Baltic countries and Belarus, which would not give a significant rise to new environmental impacts. The planning of the project should take into account the negative impacts of construction activities and restrictions to fishing interests and how they will be compensated.

**ProKarelia** finds that the gas pipeline project is in line with the economic interests of Russia and Germany and in the political interests of Russia, and the energy transported through the pipeline is intrinsically useful for European states. The crossing of the pipeline through a sea area is a project consistent with the spirit of the UN Convention on the Law of the Sea.

However, the pipeline may cause extremely significant detrimental environmental impact in the heavily trafficked Baltic Sea, which is already in a rather poor state, and the pipeline may have an unpredictable negative impact on the cultural heritage of the Baltic Sea area. The pipeline has an important effect on the readiness of Finland's naval defence. It will also take a toll on the fishing industry and tourism. The Finnish public should have access to precise information on the effects and the reparation of and compensation for possible detrimental impacts.

The comments also refer to the fact that the international human rights convention recognises the protection of property and its permanence in terms of the pipeline through Ladoga-Karelia and the Karelian Isthmus.

### **Private persons**

**Comment 1** states that an alternative that causes the least harm to the environment has not been explored in the routing of the pipeline. The routing through Finland's EEZ has drawbacks such as a significant amount of unnecessary cutting, blasting and other work on the seabed with very detrimental impacts on the entire Gulf of Finland. In addition, under international law, Finland is considered to be responsible for this type of environmental damage in its territory.

Problems in the assessment programme are deprecating phrases and the proposed methods are rather insufficient. An actual operational plan is missing altogether. The designated schedule for the project is far too tight. A condition for the assessment on Finland's part should be Russia's full commitment to the EIA agreement.

**Comment 2** points out the fact that the Baltic Sea has been designated a Particularly Sensitive Sea Area and states that the EIA should include the entire lifespan of the pipeline and that the assessment should be conducted in accordance with the worse-case scenario. The construction of the pipeline on the seabed involves more environmental, natural and health risks than does its construction on land. For example, it is easier to deal with accidents on land, both during and after construction.

The comment points out that the area of the seabed which will end up under the pipeline is extensive and questions the acceptability of building on the seabed. It states that the alteration of the seabed affects the dispersal of harmful substances and nutrients in anoxic water.

**Comments 3 and 4** consider it obvious that the planned pipeline on the bottom of the Baltic Sea would have dramatic impacts on the ecology of the Baltic Sea. The planned routing passes seven kilometres away from the eastern Gulf of Finland which pertains to the Natura 2000 network. The pollution and environmental impact solely on this area is viewed in the comments as sufficient to prevent the entire project. The wide spreading of sediment will prevent the spawning of fish and have negative impacts on fishing and fish stocks. In any event fishing in the vicinity of the pipeline would be completely prevented. The owners of coastal real estate would suffer from problems caused by the pipeline for years.

The project is also stated to seriously jeopardise Finland's national welfare, negatively affecting Finland's naval defence and is considered politically hazardous. If it is implemented, the project would seriously hinder the construction of a cable between Finland and Estonia and destroy Finnish cultural heritage in the area. In addition, it is pointed out that a detailed



report on the impacts of the project on, for example, shipping traffic and water quality has not been provided.

The comments also deal with the impacts of the project on Russian navy vessel traffic and the portion of the pipeline to be built in Karelia.

**Comment 5** states that a thorough assessment of the environmental impacts of the pipeline would require the equal assessment of all alternatives. The comment proposes, in addition to the alternatives presented in the assessment programme, three new alternatives. One would examine the implementation of the pipeline routing in an environmentally more sound area in the Gulf of Finland, a second proposal is a land alternative through Lithuania and Poland and a third proposal is the so-called Nabucco project, that is, the construction of a pipeline through Azerbaijan, Georgia and Turkey to Europe.

The comment proposes that the developer be required to provide an assessment of the impacts of the project in light of Baltic Sea environmental conservation projects, especially the Natura 2000 network.

The comment considers the evaluation of the impacts presented in the assessment unrealistic and proposes that the developer should submit a realistic programme, which would include sufficiently precise scheduling and resource management. The comment expresses concern over the increase of naval activity because of the project and resulting environmental impacts.

#### **Answers in accordance to the official notification according to the Convention on Environmental Impact Assessment in a Transboundary Context**

**Sweden, Denmark, Germany, Poland, Latvia, Lithuania and Estonia** have by 20 February 2007 provided their answers to the official notification by the Ministry of the Environment in accordance with the Convention on Environmental Impact Assessment in a Transboundary Context. They have informed the ministry of their willingness to participate in the assessment of the environmental impacts and they have presented their viewpoints. Many expert statements and opinions presented in these countries have been included. These responses mainly relate to the overall assessment of the project and they present questions considered important by the countries, which are generally parallel to the issues presented in the comments and opinions expressed in Finland.

#### **4. STATEMENT OF THE CO-ORDINATING AUTHORITY**

The construction of an offshore gas pipeline from Russia to Germany is a major project, both for Finland and for the whole Baltic Sea region. However, the magnitude of the project should not mean that the environmental impacts are assessed less carefully than for smaller projects. The impacts of the project on the state of the environment in the Baltic Sea must be investigated with care, since the Baltic Sea and especially the Gulf of Finland are

particularly vulnerable ecosystems, unique in terms of their natural features and already subject to an excessive pollution load.

The project extends to the territories or exclusive economic zones of five different states, and thus the planning and assessment of project impacts is a challenging task.

### **Feedback received under the Espoo Convention**

The responses received from Sweden, Denmark, Germany, Poland, Latvia, Lithuania and Estonia to the notification sent by the Ministry of the Environment under the Espoo Convention have been made available to the Uusimaa Regional Environment Centre and they have been taken into consideration when preparing this statement. The countries' responses are based on the project description of the entire project from Russia to Germany corresponding to the assessment programme. This report is appended to the assessment programme and has also been made available to the public in Finland. These responses with their appended documents have been submitted to the developer, and the Parties to the Espoo Convention will meet in March 2007 to discuss them with the developer.

### **Description of the project**

The project is described clearly, but in fairly general terms. It does not appear from the assessment programme that the levelling of the seabed is to be carried out for both pipelines at once. The routing of the pipeline has not been shown in such detail that the amount of work required on the sea bottom could be specified in detail. As regards the levelling of the seabed, it is stated that the excavation work would affect a 100–150 metre-wide corridor on the sea bottom. According to the preliminary assumption made in the assessment programme, the pipeline would be sunk into the seabed and covered for a distance of about 50–100 kilometres in the Finnish EEZ.

Since neither the detailed routing, nor the topography of the seabed, its structure or sediment composition have been presented, it has not been possible to give a detailed plan for the required seabed excavation work with the required transport of removed materials and how they relate to the various sedimentation areas in the Gulf of Finland.

The description states that the construction of the gas pipeline will require onshore maintenance or other auxiliary facilities. The locations of these facilities and the related operations have not yet been presented in the assessment programme, but they are to be presented in the assessment report.

The general nature of the description is reflected in the fact that the whole assessment programme is also very general, and this has made it difficult to define the investigations needed. This means that no accurate assessment programme or assessment can be made of the project thus described. The project should therefore be described with sufficient accuracy to allow detailed investigation and assessment of its environmental impacts.

## Examination of alternatives

The assessment programme explains the history of the project and the alternative routes that had been studied previously. In this context a project in the 1990s was mentioned, investigating a planned offshore gas pipeline from Russia to Germany, and also pipeline routes crossing the mainlands of Finland and Sweden.

As a zero-alternative, the programme mentions the new Yamal–Europe pipeline, which is parallel to the route of the existing Belarus pipeline. Another zero-alternative mentioned is the Amber pipeline via Russia, Latvia, Lithuania and Poland.

According to the assessment programme, the assessment only concerns the offshore Nord Stream gas pipeline project from Russia to Germany. In addition, the programme states that the project is intended to meet the growing need for gas in the European Union. The project is part of the European Commission's Trans-European Energy Network (TEN-E). The purpose of the TEN-E programme is to promote the formation of European-wide energy transmission networks and thus to promote both reliable energy supply and efficient energy markets.

The various overland pipelines investigated earlier have not been examined as an alternative to the offshore Nord Stream gas pipeline project. The assessment programme does not give any grounds for eliminating the routes studied earlier. In the assessment report more detailed reasoning should be given for choosing the Baltic Sea alternative.

The Nord Stream gas pipeline would provide a new Baltic Sea route for bringing gas from Russia to the European market. According to the assessment programme, the new link would be a way to avoid the economic and political instability that sometimes affects overland pipelines.

The topography of the seabed in the Gulf of Finland is difficult with a view to construction in Finland's EEZ, as the sea bottom is uneven, and laying the pipeline would require levelling and filling. The sea bottom of the Gulf of Finland further south of the proposed pipeline route is more even and deeper.

Because of the ecological vulnerability and heavy pollution load in the Baltic Sea, and particularly in the Gulf of Finland, it is important to find a routing and method of implementation that causes the least possible impact on the environment. The routing now proposed follows the outer limit of the Finnish EEZ very closely, and no environmental grounds have been given for this choice. The assessment should propose the best routing alternative, in terms of the environment, in the Gulf of Finland.

On the pipeline route or in its vicinity, there are areas of long-term marine research monitoring, which are important for monitoring the state of the Baltic Sea. In further planning of the pipeline routing, the integrity of these areas should be taken into account.

## **Schedule**

The schedule for the EIA is tight, and if necessary it should be revised to allow for any additional investigations. In order to gain an overall picture, it was good that the first stage of the assessment, the so-called scoping phase, could be implemented simultaneously for the whole project in all the Baltic Sea states, as provided in the Espoo Convention. It is desirable from the point of view of uniformity and control of the whole project that the results of the EIA should also be dealt with simultaneously for the whole project in all the Baltic Sea states.

## **Impacts and their investigation**

The most significant impacts of the project will be caused by construction, but there may also be impacts during the operation of the pipeline.

## **Impact area**

The area affected by the project will be defined more precisely during the assessment, and will depend on the issue under consideration at the time. The fine-grained material made up of sediments and substances released into the water may be carried further by currents than the assessment programme indicates. The scoping of the impact area towards Åland should also be examined during the assessment.

## **Seabed topography and sediments**

A sufficiently accurate analysis should be made of the harmful substances and nutrients contained in the bottom sediment of the gas pipeline route. The assessment report should illustrate, for example, by simulation modelling, how the substances and nutrients stored in the sediments will be released and transferred, and how they will settle and bind to organisms during the construction phase.

Depending on the concentrations of harmful substances in bottom sediments, a plan should be made for handling them, with reference to the guide on dredging and dumping sediments published by the Ministry of the Environment on April 19, 2004. The guide is based on a recommendation and guidelines given under the Baltic Marine Environment Protection Convention (HELCOM) on the dumping of dredged material in the sea and the guidelines of the North-East Atlantic Convention (OSPAR) relating to dumping.

In the project description, the draft timetable and the permit procedures required by the project, no allowance has been made for dealing with concentrations of harmful substances in the bottom sediment that could cause environmental pollution as referred to in environmental protection legislation.

### **Remains of weapons and munitions**

Any remains of chemical weapons and munitions submerged in the construction area should be located, a description given of their handling and an assessment of the possible impacts. Remains of chemical weapons and munitions on the sea bottom are the concerns most frequently repeated in feedback from the assessment programme.

### **Maritime traffic and shipwrecks**

The pipeline route is located near a busy fairway. Possible risks to maritime traffic from the construction work were also strongly emphasised in the feedback. The assessment report should also describe how the safety of maritime traffic is to be ensured during the construction period.

The project may have two kinds of impact on shipwrecks. On the chosen route there may be valuable shipwrecks which it is considered desirable to preserve. On the other hand, there may be shipwrecks on the pipeline route that contain oil or other harmful substances. These must be investigated in the assessment and necessary measures must be taken to deal with them.

### **Extending the Natura 2000 network in the Exclusive Economic Zone**

The European Commission has stated a requirement that Member States should extend their Natura 2000 network to their Exclusive Economic Zones. The developer should investigate whether the scope of the project includes any reefs or underwater sandbanks as referred to in the list of habitats given in Annex I of the Habitats Directive, and any species referred to in Annex II, for example, the grey seal, the ringed seal and bird species native to the open sea. In addition, the impacts of the project on these habitats and species should be assessed.

### **Bird life**

The assessment should take into account the areas important for the different stages of the lifecycle of birds. For example, auks feed in the open sea tens of kilometres from their nesting grounds, so that distance from the pipeline, as proposed in the assessment programme, is not a sufficient criterion for assuming that the project will have no impacts on bird life. The criteria for the conservation status of the protected areas should be emphasised and the impacts on them assessed. The assessment should also investigate the timing of construction work in order to avoid interfering with important stages in the lifecycle of birds and other fauna.

### **Fish and fishing**

Commercial fishermen have particularly expressed their concerns about the impacts of the project on bottom trawling. The assessment should look into the impacts of the project on fish and fishing and its significance for bottom trawling in the conditions of the Gulf of Finland.

### **Material, methods and monitoring**

The Finnish Institute of Marine Research, the Geological Survey of Finland and the Finnish Environment Institute set up a group of experts, which has published a report "Implementation of the North European Gas Pipeline Project – Data Inventory and Further Need for Data for Environmental Impact Assessment" (Finnish Institute of Marine Research's MERI series, No. 58, 2006). The report offers good information on the basic data available in Finland and on the need for supplementary data, as well as a proposal for a project monitoring programme.

The impact assessment should be based on up-to-date information. The EIA programme contains partly out of date or incorrect data on shipping, seals, bird life and fish.

It is to be hoped that the material used and gathered in the course of the assessment will be made available as widely as possible to the public so as to ensure the transparency of the assessment procedure. The methods used, for example, in sampling and modelling, along with the assumptions involved, should be described in the assessment report.

### **Participation**

The developer has taken an active role, together with the Parties to the Espoo Convention, to ensure the uniform content and timing of the EIA. This has promoted comprehensive and consistent examination of the environmental assessment, and has improved the opportunities for citizens to participate in the EIA process.

The developer has disseminated information widely on the environmental impacts of the project, and there has been information available in all the main languages of the states in the Baltic Sea region. In Finland the developer, along with consultants, has participated in events presenting the EIA programme.

## **5. DISSEMINATION OF INFORMATION ON THE STATEMENT**

The Uusimaa Regional Environment Centre will send the co-ordinating authority's statement to those who have given statements and expressed opinions. The statement will also be available on the Internet (at <http://www.ymparisto.fi/uus>).

The Uusimaa Regional Environment Centre will also send copies of the statements and opinions on the assessment report to the project developer. The original documents will be kept at the Uusimaa Regional Environment Centre.

Director, Uusimaa Regional Environment Centre      Leena Saviranta

Senior Adviser      Jorma Jantunen

APPENDICES      Criteria for charges

FOR THE INFORMATION OF:

Ministry of the Environment  
Finnish Environment Institute (statement + 2 copies of assessment programme with appendices)  
Regional Environment Centres  
Authorities and others contributing statements and opinions