

Finland's Environmental Authority  
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For your attention: my views on the Russian-German gas pipeline project.

The EU's recent decision to reduce pollution in the Baltic Sea will become invalid as soon as any risky sea construction work is permitted.

The assessment must be based on the worst case scenario.

In regard to the fate of the pipeline, an EIA must be done now and must cover its entire lifespan.

Building a pipeline on the bottom of the sea is far more risky than using the options that building on land offers. Accident control and repairs are more manageable from an ecological point of view, and EIA supervision and the pipeline's 50-year lifespan are more controllable. Finland can, in any event, decide not to grant permission for the pipeline just in case; the pipeline is of no importance to Finland, its absence however is. It is, after all, only a matter of opinion, and BAT in view of environment change favours building on land.

Old directives are not, in my opinion, enough for the needs of the PSSA-status Baltic Sea. Furthermore, the sea is already an endangered environment in many ways as it is.

Conducting this EIA must not delay ongoing or other prior EIAs or assessments since the gas pipeline project assessment is by no means an urgent one from Finland's point of view. Because of countless unforeseen risks, the EIA could state that the pipeline will not be granted permission due to too many foreseeable and unforeseeable risks, and focus Finland's EIA resources on our own national ongoing and future assessments. This is, in a way, a means of protecting our own environment protection interests. Now we are wasting funds and time.

A total of many square kilometres of covered and turned sea bottom will be concealed under one pipeline, i.e. three metres by 400 kilometres. This is a large space, a property, functioning as a gas storage space and entirely under water. If this type of construction is permitted in future from Russia's direction, or the designed pipeline construction from Norway's direction to the Baltic Sea is permitted, it is difficult to draw limits at a later point. The environmental impact is, however, considerable. Although this construction is of a different shape than an oil storage space, does an industrial area of this size not need property permission – is such other large underwater construction permitted? Overall, what property rules govern similar gas or oil pipes on land: planning and terms of license? In 2012, the pipeline will cover twice as much sea bottom as now.

Is placing of industry of unlimited size above or under water accepted? In the future, how will the limits for building in the sea be drawn – only when there are 20 oil rigs, 10 oil pipes and our nuclear waste is stored in capsules along the bottom of the sea? In other words, are there no limits? How will the EIAs of future pipelines be conducted? This is, after all, a precedent and it will, no doubt, be impossible to deny the numerous future pipelines permission. When will the environmental impact become significant, or does it take an eco-disaster first? This precedent must make this clear for decision-makers. All marine industrial construction should be forbidden. Already we have limits for cottage building by inland waters, i.e. by the lakeside, not to mention in the lakes since there is the risk of pollution. Using the sea as a construction site must end since the sea has already become too small due to, for instance, traffic. Furthermore, it can be compared to inland waters in regard to

risk of pollution. The risks that are caused by construction as well as the directives that govern construction (Water Protection Directive) must be brought to the attention of decision-makers. Also, Finnish water legislation must be taken into account.

What happens when the Norwegians and the Swedes embark on these projects? Nothing can be prohibited any longer until after an eco-disaster in the Baltic Sea. Should this be prevented? All construction work has side-effects and these are always detrimental to the sea. The smallest of harm is significant to a sea that is this delicate. The rational choice is to prohibit all construction work there.

What environmental impact will the eventual malfunctions of the pipeline have? Monitoring the functionality of the pipeline is very difficult. Under continuous supervision, is it possible to interrupt construction on certain grounds and within certain limits if an estimated or new risk emerges? How is interruption possible in case of military operations? Is supervision possible during the entire time of construction or will it be left until afterwards, come what may?

The quality control (non-polluted, non-radioactive, non-eutrophication) of the earth matter that is used for the groundwork of the pipeline is in all likelihood impossible when Russia's navy is present. However, Russia's old merits for disregarding environment protection (the nuclear vessels of Murmansk, the radioactive waste matter piles in its Baltic Sea harbours), and thus its reliability, make it very probable that regulations will not, once again, be respected without constant supervision.

The lower anaerobic layer of water of the bays and the secondary halocline layer mix hardly at all in normal conditions, i.e. bottom toxins (hydrogen sulphide) or nutrients do not normally enter the food chain at all. Construction work, dredging and moving land masses to fill bays cause spreading of toxins as well as eutrophication.

Landmasses and banks on the bottom may change the currents as well as the conditions of the sloping areas resulting in the death of at least the slower bottom animals (shellfish, saduria entomon), possibly fish too. The spawning and living conditions of certain organisms, for instance cod, may completely cease to exist. The current situation is relevant, not the fact that cod has been overfished and the reasons for this lie elsewhere.

There are suggestions concerning possible sea bottom conservation areas along our coastlines since eutrophication as well as pollution have already distorted the existence of many populations. For instance, the Cyprinidae have increased adding to eutrophication. This has partly also been due to a decrease in the cod stock. The cod stock, on the other hand, must not be endangered by construction work; the whole food chain will be distorted causing eventual irreversible changes. The EIA must also include existing realities such as the new fishing permits for cod, which, according to conservationists, place the stock on the verge of extinction as such. The construction of the pipeline will cause increasing damage. The bladder wrack, the coral reef of our sea, will also be under increasing threat.

Up to a year's stock of organisms (some of the birds, fish young, micro-organisms) will be endangered, even destroyed, when the pipeline is laid down. Local recovery may be lengthy and the effects will increase at the top of the food chain.

For instance, filling bays and dredging slopes poisons the organisms of the bottom layers and the water layers. Subsequently, the toxins accumulate in the food chain and, for instance, the rare

common guillemot, the white-tailed eagle and the Caspian tern are poisoned. The use of fish as human nutrition may also become endangered; dioxins have already been detected in the fish. Has a proper explanation been found for the earlier common guillemot deaths? What part do cyanobacteria play in this and what are the chances of recurrence?

What are the surface materials and the surface treatments of the pipeline and is there a danger that they will transfer phthalates, cyano compounds or other harmful substances into the food chain through and by e.g. barnacles, shellfish, or algae? Can it be monitored that such substances are not used while the pipeline is being laid? Can the substances and emissions be tested after the pipeline has been laid? Can the bottom organisms corrode the surface of the pipeline and cause risk of leaks?

When the pipeline is removed in 50 years' time, the ensuing sea bottom treatment and churn will cause risks. There is already a criss-cross of cables and pipes along the seabed, and it is not ecologically viable to leave them falling to pieces there. Will the permission include the obligation to remove the pipeline after use and what will the EIA of the removal be? In the event that the pipeline is sold to other companies, will all EIA obligations be included in the transaction? Will it be monitored that the new companies have sufficient funds to cover removal and environmental damage compensation obligations?

The temperature of the gas in the pipeline may transfer into the water and the seabed thus radically dissolving nutrients, during winter the too. Changes in water temperature on the bottom may cause changes in sea currents locally and possibly as far as the sea surface, resulting in a crevasse. A natural result of this is tankers and other vessels using this waterway instead of waiting for an icebreaker to clear the actual official waterways. In the event of shipwreck, the risk of the pipeline breaking increases.

In the event that the pipeline does break, can the gas emissions kill or suffocate organisms or people above sea surface? Is there risk of explosion on the surface? What are the risks of a full-blown disaster in the event that there is oil on the surface or an oil tanker?

Since the toxins and nutrients of the seabed have not been sufficiently studied, nor is it possible to accurately define the effects of construction there, construction work in this PSSA is too risky. This is a sea area that is sick and overfished to begin with, and this must be taken in to consideration.

It can be expected that there are submerged dud explosives and chemical substances, the explosions of which during construction work will result in deaths of organisms. When the rust eats through the pipeline, toxins will gradually leak into the sea. If tanks are removed, there is danger of rupture and ensuing toxin disaster. Hence a statement from a supervisory authority of chemical weapons is needed.

It is known that, for instance, the bottom of Kymijoki river contains record-high levels of dioxin, which is surely the case at the mouth of the river too. After all, dredging the river was forbidden because of excessive environmental impact.

No fine or guarantee is sufficient to compensate permanent environmental damage or the long-term consequences of the harm that is caused by constant construction work in the sea. Preliminary evaluation has already been recognised as a slow and costly process. Although the damage was not perhaps completely permanent, it may significantly slow down the recovery of a sea that is already sick, and this cannot be accepted. Which sector is responsible for the damage and relevant compensations, the state or the businesses? Does current legislation even permit compensation?

What would the precedent plans be? Do the compensation and cost obligations of the new environmental liability directive refer to the state if it acts as guarantor?

How many organisms per construction project are permitted to die or become genetically defective? What is the limit for considerable damage in such a PSSA? Construction work weakens this sea that is already sick and whose condition is getting worse for various reasons. One of these reasons is global warming, which in itself is disastrous for this delicate sea when its waters get warmer.

Limits must be set as to how much methane is allowed to leak from the pipeline or its joints to the surface, and information must be provided on how the leaks will be measured. There must be a report as to how the maintenance of the pipeline will be conducted. A report from the builders stating that the pipeline will not leak will not suffice; anything from shipwrecks above the pipeline to construction defects to faulty pipeline materials etc is possible. These all belong to the product life cycle analysis since assessment is always based on the worst case scenario because the worst has not yet happened.

Finally, I demand that expert authorities who have access to official verified information about the ecology of sea, the ecology of the Baltic Sea in particular, conduct the EIA.

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