

# ” The Radioactive Contamination of the Baltic Sea ”

Per Hegelund’s presentation to the Baltic Sea NGO Forum 2009.



*The best international experts, from the Helsinki Commission (Helcom) says:*

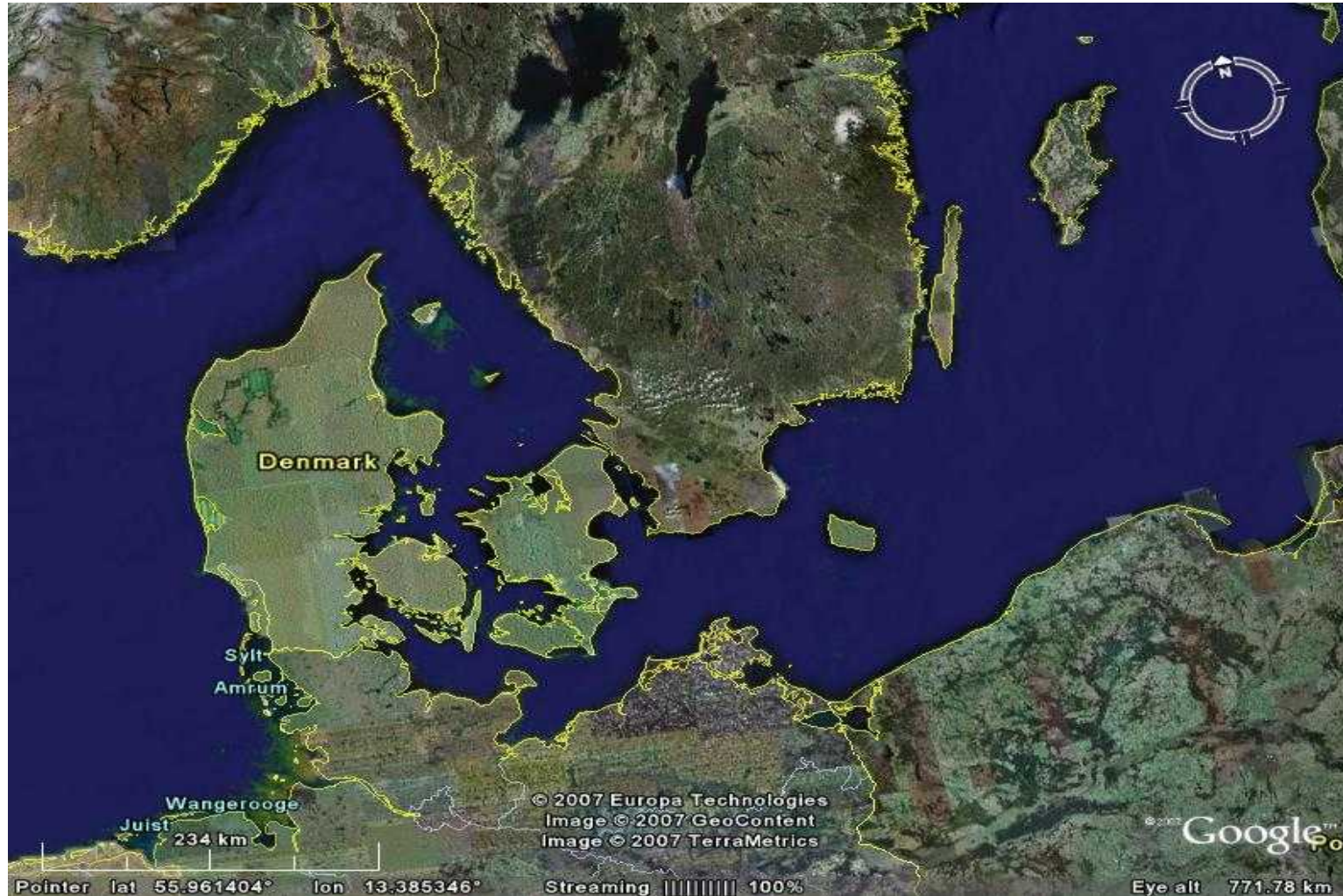
***‘The levels  
of antropogenic radionuclides  
are higher in the Baltic Sea  
than in any other water bodies  
around the world.’***

- Quote from HELCOM report to all the governments of the Baltic Sea region, November 2007 – the report can be downloaded from:

[http://www.helcom.fi/stc/files/Krakow2007/HazardousSubstances\\_MM2007.pdf](http://www.helcom.fi/stc/files/Krakow2007/HazardousSubstances_MM2007.pdf)

# The narrow straits of Denmark!

Only around 1 % “refreshment” of Baltic Sea water per year...



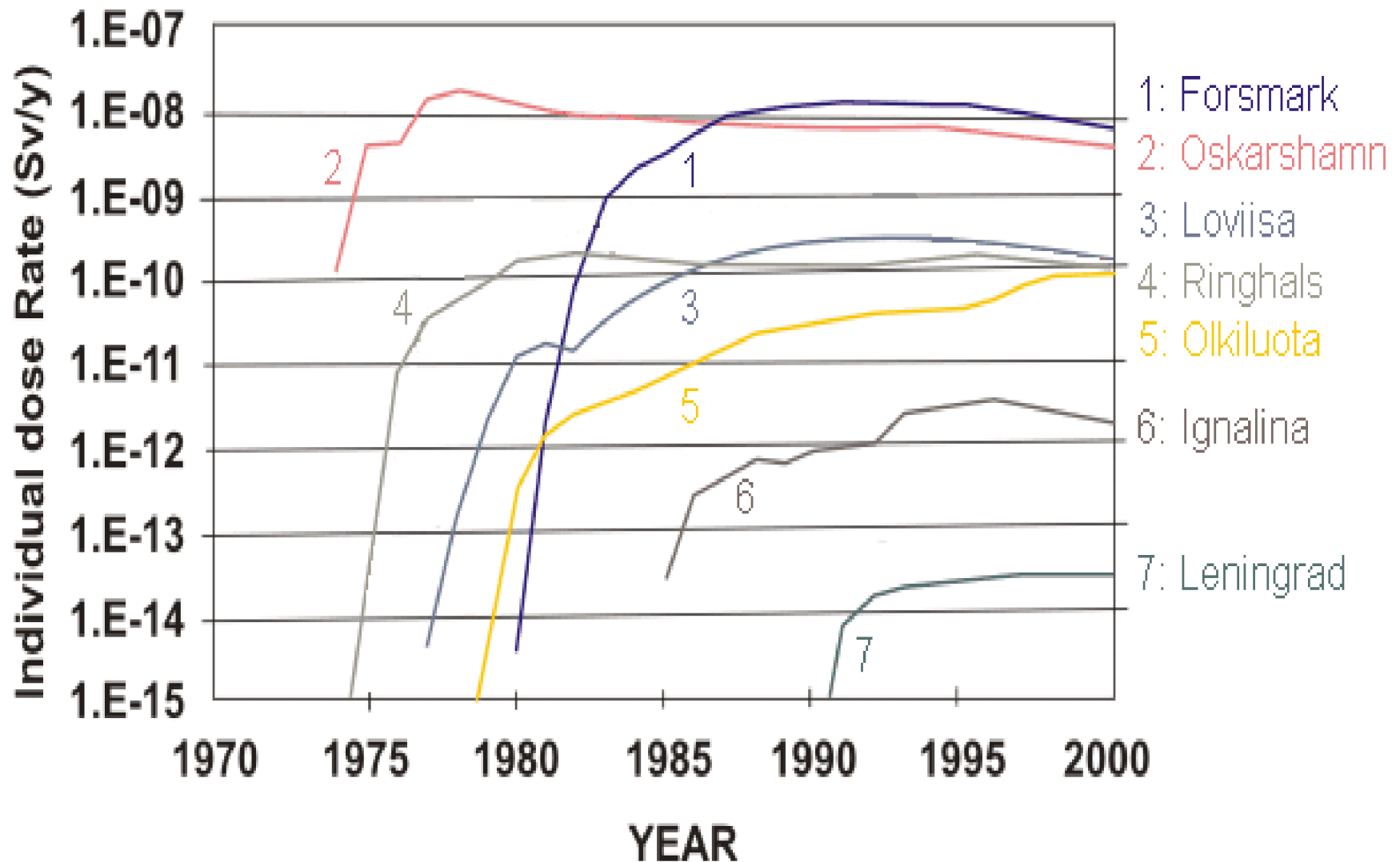
The collective dose of the European countries' population  
***from Baltic nuclear power plants:***

“As it is shown in the illustrations, **the Swedish plants** give the largest contribution in the collective doses of the population.

- The population of Denmark and Sweden receive the highest collective doses from this source category.”

Sven P. Nielsen, head of Helcom's scientific workinggroup, HELCOM MORS (MORS stands for Monitoring of Radioactive Substances) - and European Communities, 2000

Reference 1: [http://www.iaea.it/inpp\\_en.asp?lang=1&subsub=41](http://www.iaea.it/inpp_en.asp?lang=1&subsub=41)  
and: <http://www.milkas.se/files/nielsen200610.pdf>



- **Estimation of the contribution of the Baltic Sea area nuclear power plants to the annual individual doses of the critical groups of population** *(from reference 1).*

# Radioactivity - from fish to humans

While the radioactivity in the sea water is slowly sinking...

- it is accumulating in sediments and in living small organisms...

Radioactivity is transported up through the foodchain - from fish and into human beings.

# According to Helcom:

- Eating fish is the major way that people absorbs radioactivity:

**“The dominating exposure pathway is that of fish ingestion, which contributes about 94% - while the other pathways yield the rest.”**

‘Modelling and Assessment of doses’ - Sven P Nielsen.

# Contrary to the industry's claims: Nuclear power - makes climate change!

Through the release of vast amounts of hot water

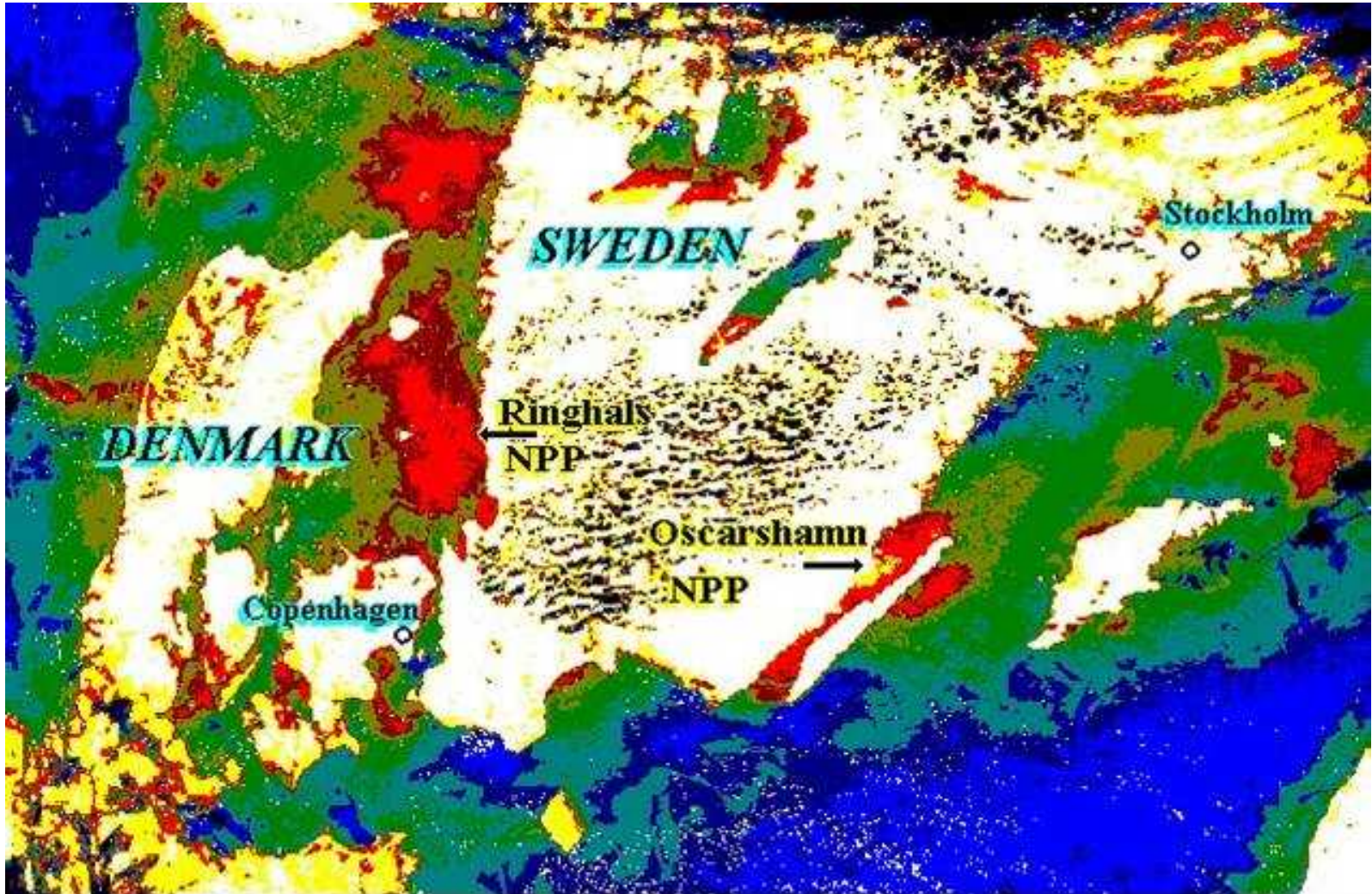
*- sudden influxes of hot water may knock out fish' spawning places, and increases algae bloom and eutrofication: the Baltic Sea has most of dead ocean floors in the world!*

and through mass killing of fish and sea life  
at the intake of cooling water. *(up to half of commercial catches, for some fish species!)*\_

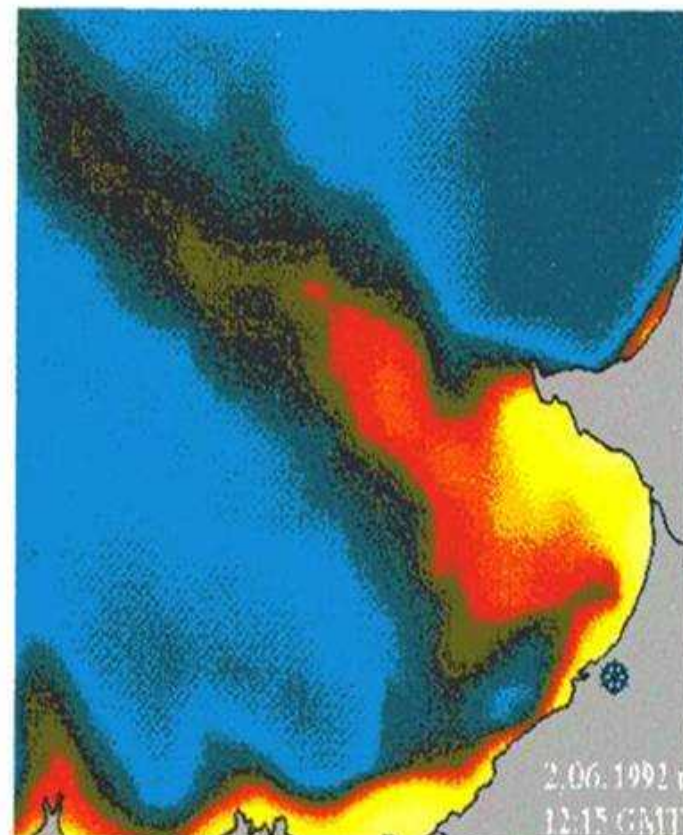
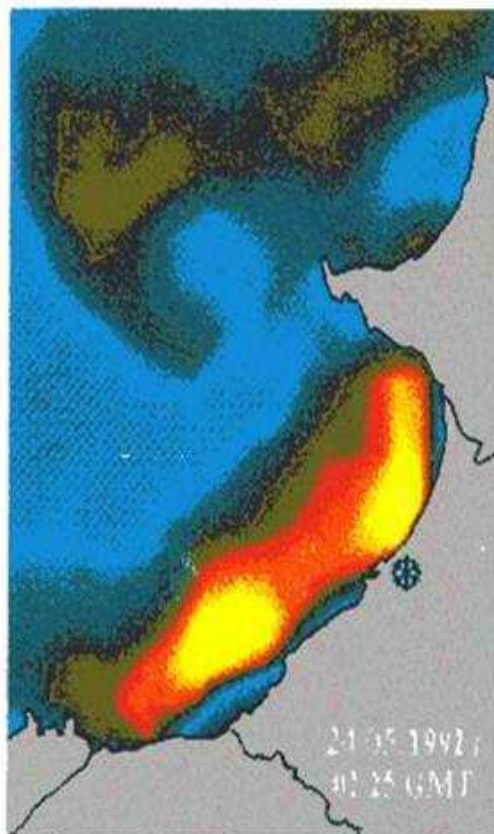
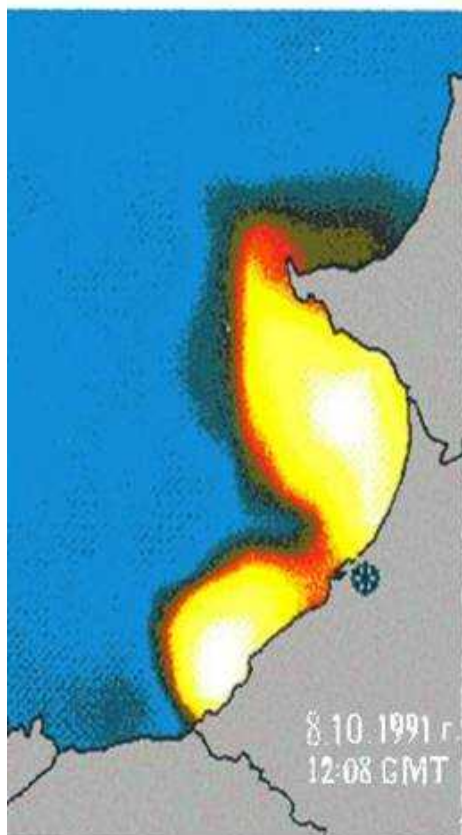
See: <http://www.timesonline.co.uk/tol/news/environment/article3740173.ece>



# Hot water release seen from space



# Satellite pictures showing heat releases from Sosnovy Bor at different wind directions...



емпература поверхности воды, °С



Температура поверхности воды, °С



Температура поверхности воды, С



# Nordic Council members' Proposals:

The Nordic Council

recommends to the Danish, the Swedish, and the Finish governments

*that they act to introduce a moratorium on the location of new nuclear plants including uranium extraction activities adjacent to the **Baltic Sea** or lakes and streams that flow to the Baltic Sea.*

The Nordic Council

recommends to the Danish, the Swedish, and the Finish governments

*that they work to ensure that in its strategic planning for the Baltic Sea, the HELCOM includes radioactive pollution*

the Nordic Council resolves

*that the Nordic Council shall continue to work on issues relating to the state of the Baltic Sea in relation to radioactivity*

and Finnish

## “THE SWEDISH / SOLUTION?”

- *“Final” depositories for **spent nuclear fuel**  
- **at (and under) the BALTIC SEA ?***

*In january 2002 the headline in the swedish newspaper Dagens Nyheter says:*

***”The worst possible location  
has been chosen..!”***

# U.N.'s Espoo Convention:

- These projects are not a private matter for individual countries to decide –
- international conventions, like the U.N.'s Espoo Convention give all neighbouring countries that may be negatively affected the right to information – and **the right to object to any such plans.**
- They have legal right to bring their dispute before the **International Court of Justice.**

# STOP Dangerous Radioactive Seatransports!

- When Sweden decided to send 4.8 tonnes of ultra hazardous spent nuclear fuel to Sellafield in the UK, KIMO, an international organisation of coastal communities' authorities, protested sharply:

“It puts at risk the marine environment and *the millions that live along the shipping route..!*”







# From Sweden to Sellafield – and back to the Baltic Sea..?

- Studsvik’s local director in the UK, Mark Lyons promises to “**reduce** the volume of scrap metal going to the low level waste repository in West Cumbria **by 95 per cent** – and to **recycle it into the international metal market.**”
- Even more spectacularly, Mark Lyons explains that some metal which “...may need further treatment **will be transported overseas to Studsvik’s facilities in Sweden.**” *(a direct quote!)*

# **Depleted uranium ship reaches St Petersburg** **- 07.03.2007**

**The Dutch ship MV Doggersbank with 1000 t of depleted uranium on board will reach the Russian port of St Petersburg today.**

**It left Rotterdam harbour last Friday after it took the depleted uranium from the German uranium enrichment plant Gronau on board.**

**In Russia the nuclear waste will be stored on surface. (one of many such transports...)**

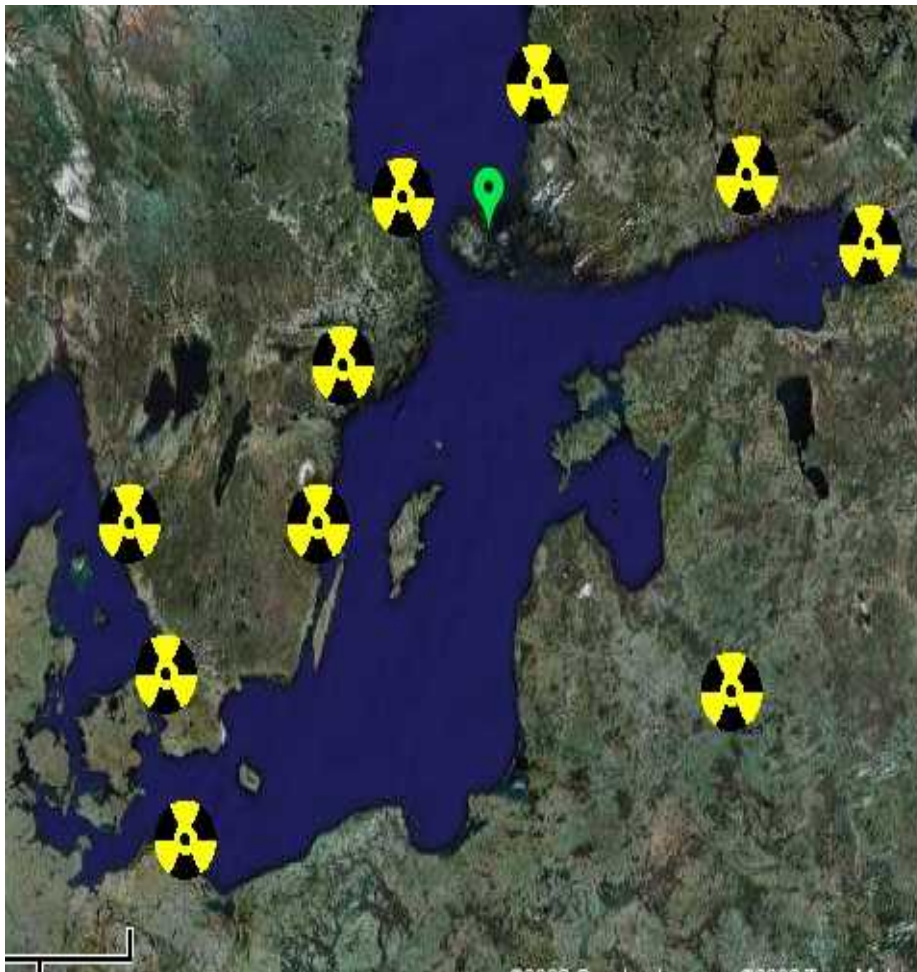
**300,000 tonnes of CHEMICAL WEAPONS**  
were dumped in the **BALTIC SEA**  
after the Second World War!

Now there are plans to build a gas-pipeline between **Russia** (Viborg) and **Germany** (Greifswald) – which will need to tear up and clear a 500 km long and 400 meters wide track across the ocean bottom. Is that really wise? Even very small amounts of the stuff we dumped there can still (and does still!) hurt people...

**Sweden, Russia** (and maybe other countries?) also dumped radioactive waste into the **Baltic Sea**...

**Are we sure it is a good idea, to disturb the stuff?**

- Did anybody investigate... The stuff is still down there!



- We demand a moratorium, a stop for any new nuclear establishments at the **Baltic Sea!**
- **STOP Dangerous Radioactive Seatransports!**