NDEP promotes co-ordination between Russia, EC, other donors and international financial institutions (IFIs), making it easier to raise funds for priority projects. The NDEP Support Fund mobilises grant funds from donors to leverage long-term loans from the IFIs.

What are the challenges for NDEP?

Environmental
The seas of the region, the Baltic and Barents, are especially sensitive to environmental degradation due to low temperatures, and the Baltic Sea in particular has low salinity and shallow waters.

The Baltic Sea ecosystem is threatened by eutrophication, which leads to the spread of marine dead zones. Phosphorous and nitrogen from poorly treated wastewater and agricultural waste cause excessive growth of algae in the sea waters. Decomposing algae consumes oxygen in the water, producing dead zones in which living things cannot survive. The Baltic Sea has changed from a clear water marine environment into a sea with frequent noxious algal growth in most parts.

NDEP projects will help to reverse this process. Other challenges concerning low energy efficiency, poor management of municipal and agricultural waste, which add to the pollution in the region, are also included in the NDEP programme.

Nuclear
Spent nuclear fuel and radioactive waste generated by the Soviet Northern Fleet present a legacy of dangerous environmental hazards on an international scale. The area around the White and Barents seas has the largest unsafe storage sites of nuclear waste and spent nuclear fuel known in the world.

So far over 120 nuclear-powered vessels have been withdrawn from service. Although most of them have already been dismantled and decommissioned, the problem of how to deal with over 50 tonnes of nuclear waste and spent nuclear fuel left on the shores of ex-coastal maintenance bases remains. This is a major concern on an international scale that is addressed through the NDEP Strategic Master Plan.

Andreeva Bay is a case in point, containing by far the largest nuclear inventory. Approximately 22,000 fuel assemblies are kept in leaking containers and deteriorating buildings. Around Gremikha on the Kola Peninsula, spent nuclear fuel is still stored in open-air pads. This is also the case for vessels moored in Murmansk and Severodvinsk shipyards, some of which are in danger of sinking. Contaminated land and aquatic areas pose a major risk to the population and environment of Russia and its neighbouring countries.

NDEP is a partnership bringing together dedicated governments, the European Union, Russia and the international financial institutions active in the Northern Dimension Area. NDEP offers project-focused solutions to improve the environment surrounding the Baltic and Barents seas and cooperates closely with leading international environmental initiatives, including:

- HELCOM
- Northern Dimension Policy of the European Union, Russia, Iceland and Norway
- Barents Euro Arctic Council
- Council of the Baltic Sea States
- Nordic Council of Ministers.

Northern Dimension Environmental Partnership
Экологическое Партнерство Северного Измерения

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The Northern Dimension Environmental Partnership:

Working towards a cleaner and safer environment in northern Europe

The **Northern Dimension Environmental Partnership (NDEP)** is a result-focused initiative responding to calls for concerted action to tackle the most pressing environmental problems and risks caused by radioactive waste in the Northern Dimension Area.

Who started NDEP?

NDEP stems from the European Union's Northern Dimension Action Plan. As a result of the EU summit in 2001 a Steering Group comprising the international financial institutions (IFIs) active in the region, the European Commission and Russia was set up to prepare a strategy and project pipeline to address the ecological problems in the Northern Dimension Area. Of particular concern was the nuclear legacy of the Soviet Northern Fleet, as well as poor wastewater treatment, lack of energy efficiency and solid waste management in the north-west of Russia, including Kaliningrad.

The work of NDEP was further endorsed when in November 2006 the European Union, Russia, Iceland and Norway signed a declaration for a permanent Northern Dimension policy. The document favours NDEP as an effective model of cooperation for environmental investment.

What is the purpose of NDEP?

For **environmental projects**, NDEP grants are intended to complement the loan funding from IFIs and help to leverage extra local and international resources. The grants offer an incentive for environmental projects that may not be otherwise financially viable.

For **nuclear projects**, NDEP grants are designed to fully cover the investment costs. Nuclear projects are developed in close cooperation with the Russian authorities and Russian and international experts.

For this purpose, the NDEP Support Fund has a special nuclear "window" coordinated by the Nuclear Operating Committee.

How does the Fund work?

The **Assembly of Contributors** is the main governing body of NDEP responsible for the overall NDEP programme. It convenes annually and makes decisions on grant allocations from the NDEP Support Fund.

The **Steering Group** is the driving force behind the development of environmental projects. It is made up of the IFIs active in the region. These include the European Bank for Reconstruction and Development (EBRD), the Nordic Investment Bank (NIB), the European Investment Bank (EIB), the Nordic Environment Finance Corporation (NEFCO) and the World Bank. The European Commission and Russia are also members of the Group. The **Nuclear Operating Committee** serves the same function regarding the nuclear project pipeline. The two groups work together to prioritise, in the most efficient and pragmatic way, project proposals for the Assembly's approval.

The **NDEP Support Fund**, managed by the EBRD, has so far received contributions from the European Commission and 11 donor governments, including Russia. The resources of the Fund in 2008 reached €273.9 million, with €149.7 million earmarked for the nuclear window.

St Petersburg is approaching full efficiency in wastewater treatment

St Petersburg Southwest Wastewater Treatment Plant (SWTP), left half-finished in 1990s, was the first project to be completed within the framework of the NDEP. Under this patronage, the €194 million investment was able to attract over €50 million in donor funding from Finland, Sweden, the European Commission and NDEP. The NIB was the lead IFI for the project, which involved an unprecedented level of international cooperation among the European institutions, IFIs, donors, Vodokanal and local authorities. The SWTP was inaugurated in September 2005 in an official ceremony attended by the Russian and Finnish presidents, Swedish prime minister and the governor of St Petersburg.

The SWTP treats the wastewater from about 720,000 people with capacity of 330,000 cubic metres per day, which was previously discharged directly into the River Neva. It is capable of removing 90 per cent of the phosphorous and 70-80 per cent of the nitrogen. **St Petersburg's capacity for treating wastewater, combined with that of the SWTP, has increased to 85 per cent.**

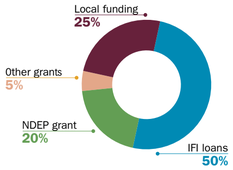
St Petersburg Sludge Incinerator at the Northern Wastewater Treatment Plant is an associated project, also co-financed by NDEP, which became fully operational in September 2008. The construction of the incinerator, totalling over €90 million, provided a sustainable solution for the disposal of sludge from the wastewater treatment process.

St Petersburg Northern Tunnel Collector will further cut the amount of direct discharges of municipal and industrial wastewater entering the Gulf of Finland. Similarly to SWTP, the construction of the collector began in Soviet times but came to a halt in the 1990s. It was not until 2003 that St Petersburg Vodokanal was able to restart tunnelling works and resume efforts to re-launch the project. This has proved to be a large-scale investment, currently close to €890 million, including the NDEP-financed Okhta Tunnel Collector.

Once completed in 2011, the nitrogen and phosphorous loads are expected to fall significantly. The phosphorous reduction itself is estimated at about 1.4 million persons equivalent. Also, **the project will finally enable St Petersburg to deliver on its pledge to comply with the EU and HELCOM directives and treat 98 per cent of its wastewater.**

NDEP environmental projects

In the non-nuclear window, NDEP provides grants for projects that address urgent environmental infrastructure problems in the Northern Dimension Area and that have strong national support. The grants are used to leverage additional funding from the IFIs and local sources. Komi Syktyvkar Municipal Water Services project, totalling €30.2 million, exemplifies a typical financing structure of an NDEP project (see chart below).



In 2008, 16 priority projects – totalling over €3.5 billion in investments – have been included in the NDEP work programme. Once implemented, the projects will lead to substantial environmental improvements benefiting north-west Russia, which will in turn have a significant impact on neighbouring areas.

NDEP environmental projects include:

- the Southwest Wastewater Treatment Plant in St Petersburg, which will substantially reduce the effluent load into the Bay of Neva, the Gulf of Finland and the Baltic Sea (completed in 2005)
- the St Petersburg Northern Wastewater Sludge Incinerator, which will help to solve sludge disposal problems in the city (completed in 2008)
- completing the Northern and Okhta Tunnel Collectors in St Petersburg to eliminate the remaining points of direct discharges of wastewater into the River Neva
- completing the St Petersburg Flood Protection Barrier, which will protect the low-lying city and its residents from damaging floods
- upgrading district heating systems in several cities, which will reduce energy losses, improve energy efficiency and safeguard the local environment
- improving municipal water and wastewater services in Archangelsk, Kaliningrad, Komi Republic, Leningrad oblast, Novgorod, Vologda and Petrozavodsk to improve the quality of drinking water and water supply and to reduce the amount of discharged wastewater.
- improving solid waste management in Kaliningrad and Novgorod
- support for agricultural waste management in Leningrad and Kaliningrad regions
- promoting private sector environmental projects in north-west Russia to reduce discharges into the water and emissions into the air from pulp and paper, metallurgy and chemical industries (Ladoga Environmental Programme).

The full list of NDEP projects is available at www.ndep.org.

NDEP Support Fund in 2008

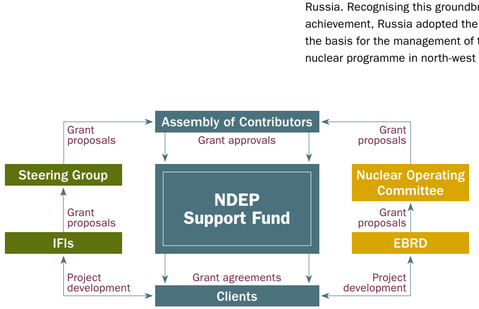
Environmental		Nuclear
€30m	European Union	€40m
€40m	Russia	
	France	€40m
	Canada	€20m
€10m	Germany	€10m
€16m	Finland	€2m
€17.3m	Sweden	
	UK	€16.2m
€10m	Denmark	€1m
€0.9m	Norway	€10m
	Netherlands	€10m
	Belgium	€0.5m
€124.2m		€149.7m
€273.9m		

NDEP nuclear projects

The cold war legacy of nuclear waste in north-west Russia is complex and far-reaching. It was therefore recognised from the beginning that an expert-level coordinated approach, combined with efficient international assistance and cooperation, would be needed to tackle the issue.

Soon after NDEP was established, the first landmark was achieved in 2003 when the Agreement on Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR) was signed, which laid the foundation for international cooperation. Previous multilateral initiatives, including the G8 Global Partnership Programme, also provided backing for NDEP nuclear tasks.

With funding from NDEP, efforts began in 2003 to prepare a Strategic Master Plan (SMP) – a comprehensive decommissioning programme. Concluded in 2007, it delivered a concrete project pipeline developed by top Russian specialists and reviewed by the international Expert Advisory Group. It was supported by an extensive Strategic Environmental Assessment commissioned by the EBRD, the first to be conducted in Russia. Recognising this groundbreaking achievement, Russia adopted the SMP as the basis for the management of the whole nuclear programme in north-west Russia.



So far, and together with the SMP, the Assembly has approved funding for various priority projects in the nuclear window.

- Decommissioning of the Floating Maintenance Base "Lepse" currently moored in Kola Bay near Murmansk.
- Decommissioning of Building no. 5 in Andreeva Bay, formerly a wet storage facility for spent fuel from nuclear submarine reactors.
- Construction of a system for the transport and buffer storage of spent nuclear fuel in Andreeva Bay. There are approximately 22,000 fuel assemblies kept in three deteriorating dry storage tanks that are leaking.
- Unloading of spent nuclear fuel from Papa-class nuclear-powered submarine, currently moored near Severodvinsk.
- Creation of safe conditions for the storage of spent fuel from Alfa-class nuclear submarines in Gremikha.
- Feasibility studies for the removal and safe storage of spent nuclear fuel and radioactive waste from the open storage area in Gremikha.
- Improvement of the physical protection of the Gremikha site.
- Enhancement of the radiation monitoring and emergency response systems in Murmansk and Archangelsk regions.

Other NDEP projects in progress

Komi Syktyvkar Municipal Water Services

Objective: Upgrading water and wastewater facilities to reduce direct discharges of wastewater and improving energy efficiency

Lead IFI: EBRD

NDEP grant: €6.04 million

Total cost: €30.2 million

Leningrad Oblast Municipal Environmental Investment

Objective: Improving water and wastewater facilities in four towns: Gatchina, Tikhvin, Pikalevo and Kirovsk

Lead IFI: NIB

NDEP grant: €4 million

Total cost: €23.2 million

Vologda Municipal Water and Wastewater Services Rehabilitation

Objective: Upgrading water and wastewater facilities to reduce nutrient load

Lead IFI: EBRD

NDEP grant: €3.5 million

Total cost: €18.4 million

Sosnovyi Bor Municipal Water Services

Objective: Upgrading wastewater works with phosphorous removal and sludge drying facilities

Lead IFI: NEFCO

NDEP grant: €0.5 million

Total cost: €2.9 million