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## ABOUT POSSIBILITIES OF "ENVIRONMENTAL" FINANCING OF INVESTMENT PROJECTS

All over the world, the decision of environmental problems causes significant difficulties, especially in case of chronic problem, generated by past economic activities. However, they should be resolved to avoid continuing of degradation of the environment to the level of irreversible environmental and social consequences and rendering of essential health effect to the population and significant reduction in economic growth rates.

The developed countries "have agreed" long time ago to allocate a certain amount of so-called "environmental" financial assets and to grant them to enterprises for the decision of environmental problems. These funds are granted without return or in the form of guarantees for credits of business bank financing of "environmental" investment projects, or in the form of soft loans under terms distinct from market terms. The efficiency of such financial resources is defined by ability of the state to provide them to initiators of environmental/nature protection projects.

The National Pollution Abatement Facility (NPAF) is one of such *financial tools* in the Russian Federation.

**The NPAF status.** This Facility is one of components [of the Environmental Management Project \(EMP\)](http://www.npaf.ru/pic/r_emp1.jpg) [http://www.npaf.ru/pic/r\\_emp1.jpg](http://www.npaf.ru/pic/r_emp1.jpg), which is a part of the Framework Environmental Program developed in 1994 by the Government of the Russian Federation with participation of International Bank for Reconstruction and Development (IBRD), Global Environmental Facility, European Union, governments of Canada, Norway, USA, Finland, and Switzerland and directed on perfection and support of realization of the state environmental policy at federal, regional and local levels.

The NPAF was founded by the Resolution of the Government of the Russian Federation "On Measures for Fulfillment of the Agreement between the Russian Federation and the International Bank for Reconstruction and Development about the Loan for Financing the Environmental Management Project" of August 11, 1995 808 [http://www.npaf.ru/doc2/r\\_post808.pdf](http://www.npaf.ru/doc2/r_post808.pdf). According to the Amendments to the Loan Agreement, which have come into force on August 7, 2002, MOEDT of Russia was assigned as the ministry responsible for NPAF implementation and the status of NPAF implementation unit was assigned to the Legal Entity "NPAF Executive Directorate".

The NPAF management body is the NPAF Supervisory Board (SB) formed of representatives of MOEDT, MoF, MNR and other interested ministries, agencies and organizations. The NPAF SB approves investment projects subject to financing under this Facility and terms of their crediting. The Provisions of the NPAF

Supervisory Board [http://www.npaf.ru/doc2/r\\_super\\_vis.doc](http://www.npaf.ru/doc2/r_super_vis.doc) were approved by the MNR, MOF and Ministry of Economy on May 29, 1996.

**The basic objective of NPAF creation** is validation in practice of tools of financial support, promoting the best realization of investments into environmental enhancement by:

- financings priority investment projects (IPs), directed on pollution abatement and restoration of natural resources;
- effective utilization of funds of the Environmental Loan, including for procurement of goods (works and services) necessary for the IP implementation.

**NPAF financial resources and terms of investment project financing.** The NPAF is financed out of funds of the Environmental Loan (38060-RU), funds of the Grant of the Government of the Swiss Confederation (TF 3810 [http://www.npaf.ru/pic/r\\_emp2.jpg](http://www.npaf.ru/pic/r_emp2.jpg)) and the Russian enterprises — beneficiaries of NPAF loans. Besides, the funds paid by NPAF Sub-borrowers to the Ministry of Finance under Sub-Loan/Budgetary Loan Agreements (NPAF repayment funds) are intended for reinvestment into new priority environmental projects. The total amount of financial resources in the NPAF disposal as of January 1, 2007 is 43 million USD, including 11 million USD of NPAF repayment funds.

NPAF financial resources are transmitted to the Final Borrower through a Participating Bank (financial intermediary) for the period up to 8 years, 2 years out of them — a grace period (when the enterprise only repays interests under the Loan from the written off amounts). The maximum amount of NPAF funds for implementation of one IP should not exceed 7 million USD and should make no more than 70 % from the total cost of the project. The interest rate under NPAF loans for environmental IP implementation is currently reduced to 6,5 percent on currency (instead of 8,5...9 percent earlier). NPAF funds can be used for procurement of goods (equipment) and services (works) necessary for the Project implementation.

The NPAF is also a source of financial resources for implementation of environmental investment projects formed under other Projects of the World Bank:

- (1) project "Russia — Renewable Energy Program" (RREP) — it is at the final stage of preparation;
- (2) project "Development of Financing of Target Environmental Investments in the Russian Federation" (TEI) — it is in the initial stage of preparation.

**Criteria for selection of projects for financing out of NPAF funds.** The following projects are considered environmental/nature protection projects:

- reconstruction, modernization, technical re-equipment of an operating enterprise resulting in reduction of adverse environmental impact;
- construction and reconstruction of treatment facilities, arrangement of landfills for storage of production and consumption waste, production waste processing in marketable products;
- manufacture of goods (equipment) directed on the solution of ecological problems (biological fuel, equipment for RER based technologies, nature protection equipment, etc.);
- projects of power and heat production on the base of RER development, including green-field enterprises with the analogous purposes.

NPAF funds are only granted for implementation of those IPs, which have passed the process of selection and evaluation according to eligibility criteria:

- 1) environmental and technological criteria showing essential decrease of adverse environmental impact and/or recovery (protection) of natural resources at use of modern resource-saving technologies, namely:
  - improvement of environmental situation as a result of IP implementation considering global, national and regional environmental priorities;
  - cumulative positive environmental effect from the project implementation;
  - use of progressive technologies, methods and products, applied in the world practice;
- 2) financial criteria reflecting financial consistency of the enterprise – Final Borrower, namely:
  - ability to finance not less than 30 percent from total costs of the IP implementation, including not less than 20 percent of costs out of equity;
  - ability duly and completely cover the liabilities (including payment liabilities) related to the IP implementation.

**The Legal Entity "NPAF Executive Directorate"** (NPAF ED) is a legal entity created by the Autonomous Noncommercial Organization "Centre for Preparation and Implementation of International Projects on Technical Assistance" (ANO "CPPI"), OJSC "Federal Centre for Project Financing" and State Unitary Enterprise "Association — InformVES". The NPAF ED is a non-commercial organization, which activity objective is not extraction of profit. The NPAF ED basic objectives are organization of preparation, evaluation and financing of priority investment projects in the field of rational nature use, and environment enhancements. Currently, the Legal Entity NPAF ED, in addition to functions of the Implementation Unit, also implements the functions of the Project Preparation Group of the "Russia — Renewable Energy Program" (RREP), which will be carried out in 2007—2011.

**Supervision of investment project implementation.** The NPAF ED, with assistance of consultants, renders professional services (*free of charge*) related to investment project selection, structuring, assessment, and supervision of their implementation:

- renders advisory and methodological assistance at formation of the Application for NPAF funds;

- organizes preparation of Substantiations of Investments *out of NPAF funds*, including realization of EIA by competent consultants, under the investment proposals corresponding to NPAF criteria;
- assists in development of implementation and procurement plans under the project;
- assists in organization of procurements of goods and works under the World Bank procedures;
- participates in negotiations with participating bank and preparation of legal acts necessary for realization of projects.

**NPAF basic results.** By the moment, the NPAF has realized 4 and realizes 1 more investment projects, which have envisaged modernization of basic production processes with simultaneous decrease of technogenic environmental load:

- IP "*Modernization of cardboard production at the DAO "Karton" for the purpose to decrease power consumption and harmful air emissions*". (Novodvinsk, Arkhangelsk oblast) was completely finished in August, 2000. The total cost of IP was 11,38 million USD including 6,93 million USD of NPAF extra funds. The project implementation has allowed to eliminate the basic source of evil-smelling emissions — cascade evaporizers at SRB-1 and SRB-2; to reduce emissions from SRB-1, SRB-2 by 3,034 t/year and from THPP-1 by 32,850 t/year; to reduce coal consumption by 20,460 t/year. Cardboard machine productivity was increased, quality of basic products was improved, working zone conditions were improved, wages of workers of the investment project installations increased. The enterprise has completely repaid the Sub-Loan.
- IP "*Improvement of environmental situation in Volgograd through essential reduction of air emissions from chemical enterprises "Plastkard" and "Volgogradneftepererabotka"*" was completely finished in April, 2006. The total volume of investments under the project is 9,822,700 USD, including NPAF extra funds — 6,500,000 USD. The IP implementation resulted in reduction in air emission of "fat" gas by 30,000 t/year; elimination of emission of 35,000 t/year of "fuel" gas due to its use for pyrolysis for production of acetylene and ethylene; decrease of energy consumption in 3 times; reduction of vat residue formation at dichloroethane fractionation more than in 2,5 times; increase in volume of use of chlorine from the OJSC "Kaustik" by 13,000 t/year. The Project implementation results are: production of vinyl chloride/polyvinyl chloride has increased by 35 %, product cost has reduced by 35 %, wages of the workers on IP installations increased. The enterprise continues the Sub-Loan repayment. The total amount of payments carried out by the OJSC "Plastkard" as of December 31, 2006 has made 4,74 million USD.
- IP "*Modernization of cardboard production at the OJSC "Arkhangelsk PPM" to reduce the environmental impact*" was completely finished in the 3<sup>rd</sup> quarter of 2005. The total volume of investments under the project is 34,621,200 USD, including NPAF extra funds — 5,646,800 USD. Under the IP implementa-

tion, the enterprise has used 80,7 % of Final Loan funds (including 612,925 USD from the Swiss Grant funds). The volume of costs suffered by the Arkhangel'sk PPM for co-financing of the project out of equity was 29 million USD. The Project implementation has provided utilization of 325,300 t/year of bark-wood waste, decrease of gross air emissions of harmful substances by 3,200 t/year, reduction of use of coal by 16,200 t/year and fuel oil by 24,200 t/year, reduction of greenhouse gas emissions (CO<sub>2</sub>) by 107,300 t/year, savings of heat energy at 44,113 Gcal/year. All achieved parameters are above those planned. As a result of project implementation, the volume of cardboard production has increased for 66 thousand t/year (30,6 %), wages have raised for those working on investment objects and productivity of the basic process equipment has increased.

- IP *"Bark-wood waste recovery and reduction of power consumption for cellulose production at the OJSC "Solombala Pulp-and-Paper Mill"*. The implementation of the first component of the project was finished in September of 2006. The reconstruction of the power boiler of the THPP-1 was made by the enterprise out of equity beyond the IP. The enterprise has refused realization of the other part of the project. Original total volume of investments under the project was 7,423,100 USD, including NPAF extra funds — 5,031,000 USD. Actually the enterprise has used only 1,495,200 USD of extra funds and 4,920,500 USD of equity. Modernization and commissioning of bark boiler KM-75-40 made out of equity of the enterprise, and commissioning under the IP of the site for reception, preparation, storage and feed of bark-wood waste for incineration in THPP-1 have provided reduction of coal use by 41 %, fuel oil by 32 %, decrease of gross air emissions of pollutants and greenhouse gases (CO<sub>2</sub>) from THPP-1 by 40 %. At this, the volume of production of basic products has increased by 62,260 t/year or by 33,5 %.
- IP *"Reduction of environmental impact from the Kotlas Pulp-and-Paper Mill through the replacement of evaporation station"*. The total volume of investments under the project is 21,63 million USD, including NPAF extra funds — 11,0 million USD. The credit line under the project was opened in April, 2004. The same year, the enterprise has carried out procurement on the competitive basis of the equipment for the

evaporator plant for IP implementation. By the results of competitive tender, the contract at the amount of 17,6 million USD (NPAF funds — 11,0 million USD) was awarded to the firm "ANDRITZ OY", Finland. In June, 2006, the delivery of the purchased equipment was finished. Currently, civil and erection works are carried out. As of December 31, 2006, under an IP implementation, the OJSC "Kotlas PPM" has used 11 million USD of NPAF extra funds (including from the Swiss Grant funds — 2,151,101 USD) and 9,2 million USD out of equity. The expected environmental effect from the project implementation consists in decrease of fresh river water consumption by 20,5 million m<sup>3</sup>/year, wastewater disposals to the treatment facilities of the KPPM by 20,9 million m<sup>3</sup>/year, discharges of pollutants into the Vychegda River by 35,600 t/year, gross emissions from the Mill as a whole by 626 t/year and reduction of greenhouse gas emissions (CO<sub>2</sub>) by more than 500 thousand t/year.

The basic difficulties of final borrowers in realization of projects are related to registration of legal acts necessary for their implementation (conclusion of the Final Loan Agreements, Collateral Agreements between the Participating Bank and the Final Borrower), to organization and realization of competitive tenders under IBRD rules for procurement of equipment and services, and also weak preparation of managers of enterprises for work under rules of the world community. At the same time, the acquired operational experience by enterprises — Final Borrowers with IBRD funds is rather useful for work with other international financial organizations.

**NPAF continues reception and selection of applications for financing of investment projects directed on environment enhancement and conservation of natural resources, as well as projects on renewable energy resources development.**

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